Government of Saskatchewan

Annual Report 1990-91

Saskatchewan Highways and Transportation

92-01677/

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Letter of Transmittal

SASKATCHEWAN

Legislative Building
Regina, Saskatchewan S4S 0B3
(306) 787-6447

Minister of
Highways and
Transportation

Her Honour The Honourable Sylvia O. Fedoruk, O.C., S.O.M.
Lieutenant-Governor of Saskatchewan

Your Honour:

It is a pleasure to submit the 1989-90 Annual Report for Saskatchewan Highways and Transportation.

Yours sincerely,

Bernhard H. Wiens

Bernhard H. Wiens

Saskatchewan

Saskatchewan Highways and Transportation

Deputy Minister

1855 Victoria Avenue
Regina, Canada
S4P 3V5

April 1,1991

The Honourable Bernhard H. Wiens

Minister of Highways and Transportation

Sir:

It is my pleasure to present the annual report of Saskatchewan Highways and Transportation for the fiscal year ending March 31,1991. All department activities are reviewed in detail.

Strategic planning is an integral part of the department's development and will continue to be throughout the 1990's. Strategic directions will continue to be annually reviewed and given emphasis in divisional and branch/district work plans.

Years of initiative and effort in the development of a road/rail demonstration project reached fruition in November of 1990 with the unveiling of the innovative road/rail vehicle at a ceremony in Killdeer, Saskatchewan. It is anticipated over 45 000 tonnes of grain will be hauled by the road/ rail vehicle to interchange with CN/CP during the 1990-91 crop year.

A paper entitled, Grain Transportation Partnership - Meeting the Needs of Saskatchewan Producers and Rural Communities, was released in March of 1991. The paper provides a framework for greater public involvement in grain transportation planning.

Contribution to all aspects of transportation remained important. Included in that contribution was a report made to the House of Commons Special Committee on Canada-U.S. Air Transborder Services. A submission was also made to the Royal Commission on National Passenger Transportation.

Department staff continue to be actively involved in both the United States and Canadian Strategic Highway Research programs.

Two pilot projects using end product specifications were successfully carried out. The department plans to continue with end product contracts in the future in our continuing efforts to improve construction quality.

Development of regulations for the full implementation of National Safety Code Standards in Saskatchewan remained a priority for Regulation and Traffic Safety Division.

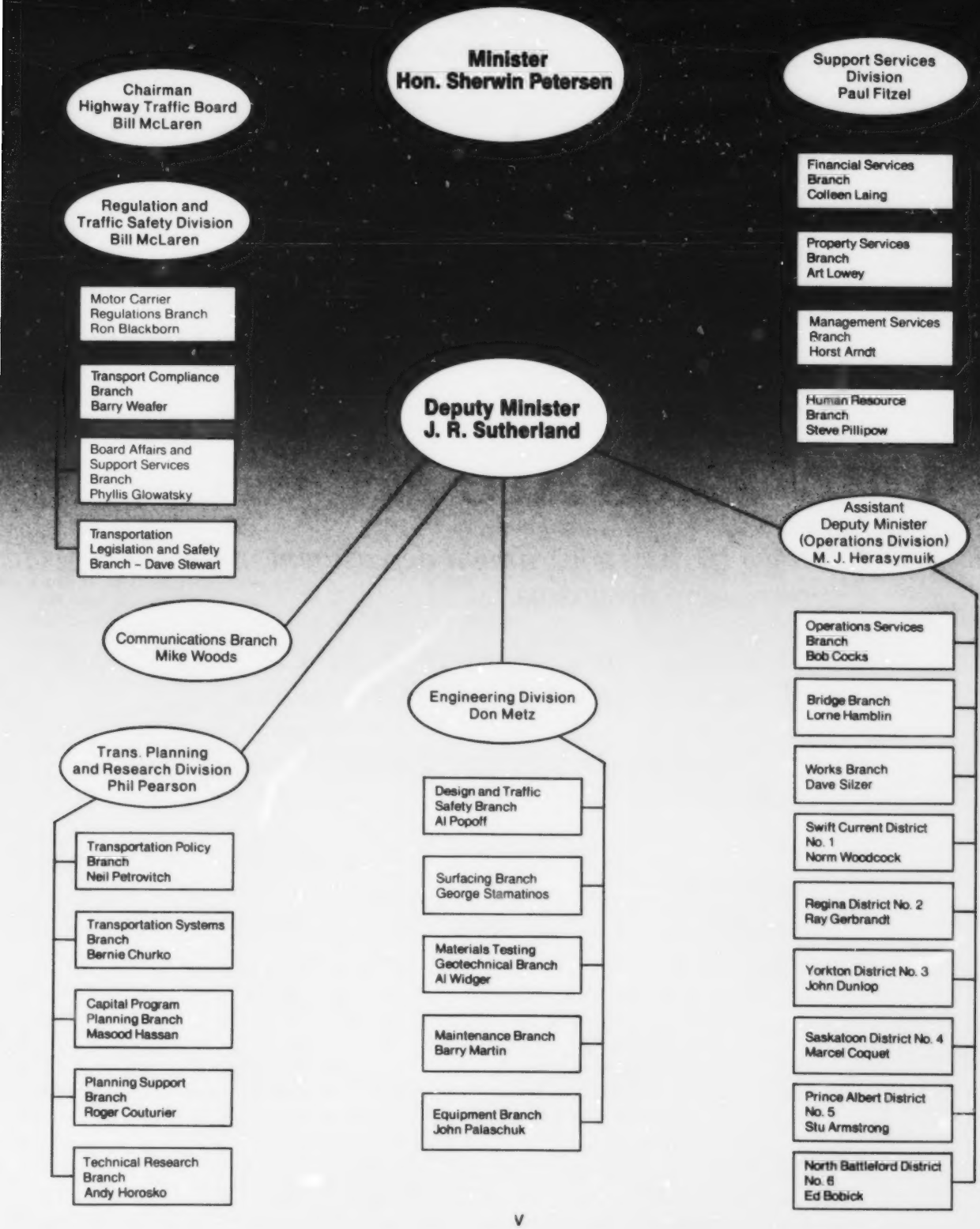
Communications Branch continued the Orange Zone highway worker safety program and prepared a video entitled, Bridging the Distance for use at the RTAC meetings in St. John's, Nfld.

Department staff remain dedicated to achieving the mission of
WORKING TOGETHER FOR EXCELLENCE IN
TRANSPORTATION.

J.R. Sutherland

Deputy Minister

Organization Chart as of March 31, 1991



Mission

Working Together
for Excellence
in Transportation

Our Goals Are

- *To be a leading government department in the delivery of services and programs.*
- *To maximize transportation's contribution to the social and economic development of the province.*
- *To be respected for our expertise and innovationin transportation*
- *To build a working environment which develops a sense of pride and personal achievement.*
- *To communicate and consult openly and effectively.*

Communications Branch

The focus of the Communications Branch is to communicate programs, policies and accomplishments consistent with the department's mission. This communication will result in an informed public who are aware of, and familiar with, the purpose and services provided by Highways and Transportation.

Branch staff achieve this mission by setting and adhering to four primary objectives:

- effectively communicating interbranch activities, department policies, and changing trends in the transportation industry to department employees, special interest groups, and the general public.
- gathering and assessing information to assist in the development of programs and projects to be communicated to the public.
- establishing approval systems, production procedures and selecting appropriate distribution systems as they apply to communication materials for the public.
- adhering to a professional code of ethics as set out by recognized communication/public relations associations.

In addition to these primary objectives, the Communications Branch provides two mandatory responsibilities:

- the branch co-ordinates the production and distribution of official and statutory publications.
- the branch provides a central information service for public inquiries.

Highlights

During the fiscal year the Communications Branch continued the "Orange Zone" highway worker safety, Winter Hotline, Road Restriction and Salvage of Hay advertising programs. Plus co-ordinated special events and produced a wide range of print and audio-visual materials.

During the fiscal year the branch published several reports related to agriculture and transportation including Grain Transportation Partnership - Meeting the Needs of Saskatchewan Producers and Rural Communities. Plus the branch organized a series of public meetings to discuss alternatives to rail line abandonment.

The branch also participated in several annual events and conventions including National Transportation Week, SUMA, SARM, Saskatchewan Roadbuilders annual conference, and WACHO.

During the year the branch issued 52 media releases and maintained a news clipping service for the department.

Printing activities of the branch included the co-ordination of the 1991 Official Highway Map, department 1989/90 annual report, Traffic Accident Systems (TAIS) report, brochure and poster, and the department staff publication In Motion.

Operations Division

Bernhard H. Wiens
Minister
Highways and Transportation

J.R. Sutherland
Deputy Minister

M.J. Herasymuik
Assistant Deputy
Minister (Operations)

Bob Cooks
Operations
Services Branch

Lorne Hamblin
Bridge Branch

Dave Silzer
Works Branch

Norm Woodcock
Swift Current
District No. 1

Ray Gerbrandt
Regina
District No. 2

John Dunlop
Yorkton
District No. 3

Marcel Coquet
Saskatoon
District No. 4

Stu Armstrong
Prince Albert
District No. 5

Ed Bobick
North Battleford
District No. 6

The Operations Division mandate statement is "people excelling in the management and operation of transportation facilities and delivery of programs and services". The mandate of the division is carried out by staff located in six decentralized district offices throughout the province and three head office branches.

Weather conditions were favourable in the last year which allowed the objectives of program delivery to be generally met. There were 279 km of grading completed and 739 km of surfacing completed. Many significant improvements were carried out throughout the highway system with emphasis being placed on resurfacing projects. The level of service objectives in maintaining the highway system were achieved.

In an effort to improve construction quality the department carried out two pilot projects utilizing end product specifications. The pilot projects were a success and indications are that the department will continue with end product contracts in the future.

In keeping with the strategic plan on human resource management, the division placed considerable importance on training, industrial safety, employee wellness and work place environment. With decreasing resources available to deliver the program activities the strategic plan placed a priority on reduction and elimination of waste where feasible, inventory control and innovation. Many good ideas and suggestions were put into practice in the past year.

Details of specific programs and accomplishments are provided in the following individual branch and district reports.

M.J.Herasymuik
Assistant Deputy Minister
(Operations)

Operations Services Branch

Operations Services Branch provides executive, technical and financial services to the Operations Division.

Major Activities

Management of centralized activities related to tendering, scheduling and contract administration.

Development and control of the department's annual capital and maintenance programs and budgets.

Administration of purchasing construction and maintenance materials.

Co-ordination of cost-shared programs.

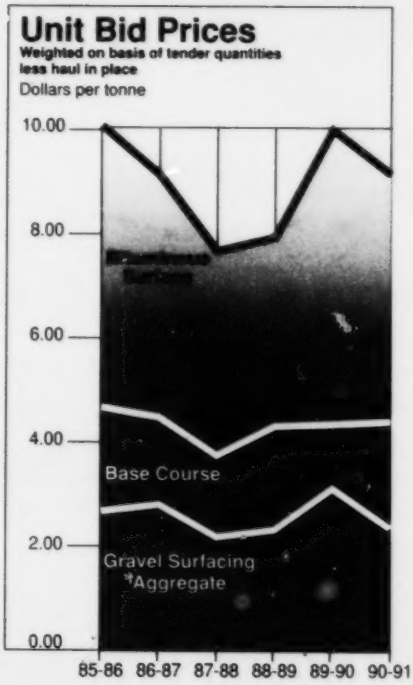
Tenders

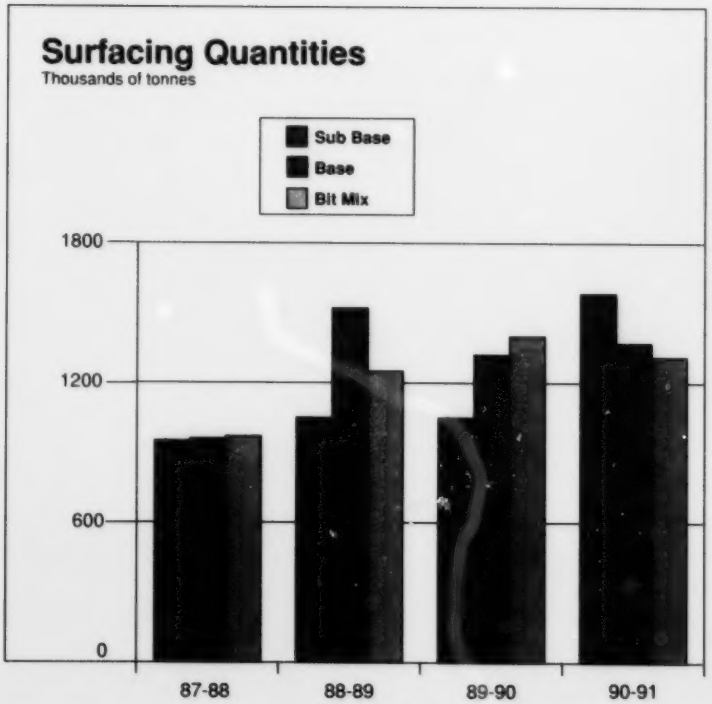
88 construction tenders valued at $39.9 million were awarded during 1990-91. 36 fewer contracts were tendered than in previous years. The value of contracts awarded decreased by $21.9 million.

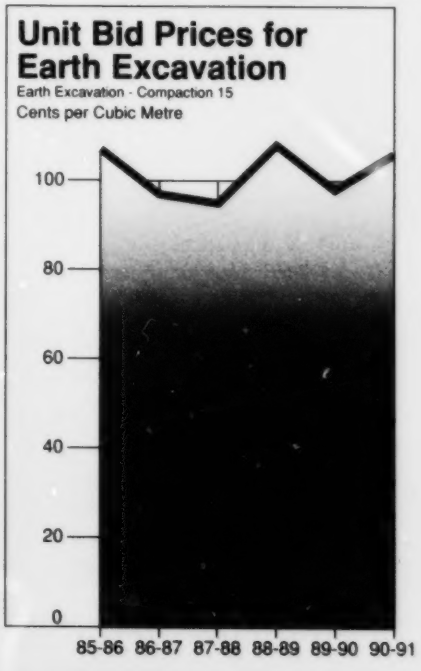
In addition, 29 maintenance mowing tenders valued at $779,700 were awarded. 15 fewer mowing tenders were issued than in previous years.

Contracts are tendered throughout the year to provide balanced workloads for contractors. In the fall and winter, heavy emphasis is placed on processing aggregates so that much of the hauling can be done in the winter to minimize damage to haul routes and to create winter work.

Unit bid prices for bituminous surface and gravel surfacing aggregate decreased and base course and earthwork increased compared to the previous year.







Grading

The amount of earth excavation work completed during the year was 4 802 464 m3.

There were 279 km of new construction completed with 27.1 km of grading work underway at year end.

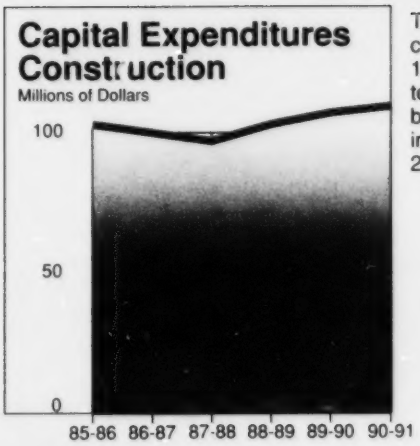
Surfacing

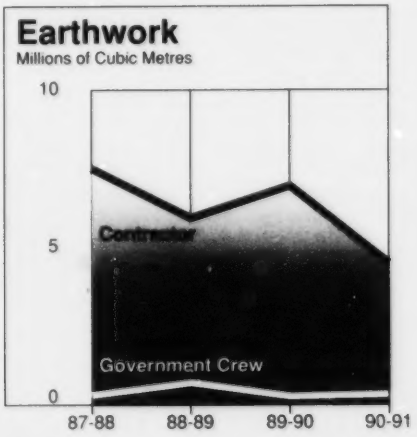
The quantity of bituminous mix on contracts in 1990-91 decreased to 1 310 644 tonnes from 1 409 600 tonnes. The quantity of sub-base and base material used in 1990-91 increased to 2 953 092 tonnes from 2 352 400 tonnes in 1989-90.

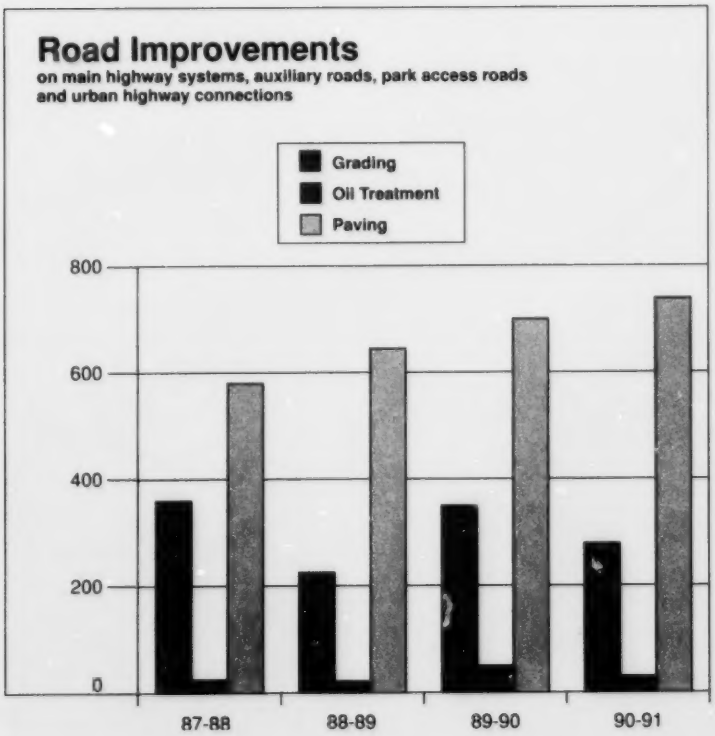
During the year 40 km of oiling, 34 km of pavement C, 180 km of new pavement and 521 km of pavement rehabilitation were completed.

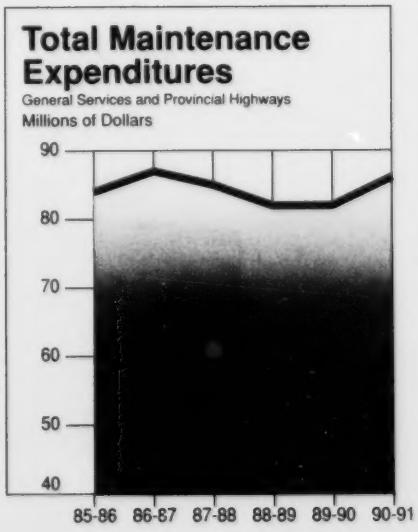
Urban Surface Transportation

Under the Urban Assistance Program $6,519,091 was provided to assist 25 communities to improve provincial highway routes.









Air Transportation

37 local governments participated in the Airport Assistance Program administered by the branch. The department provided $128,075 in assistance under the program. An additional $865,099 in capital costs was spent at three provincial airports.

Transportation Assistance Programs

Operations Services Branch administers programs which assist in providing public transportation services in rural Saskatchewan.

In 1990-91, Saskatchewan Highways and Transportation provided $231,976 in funding to support nine routes under the Rural Transportation Assistance Program.

An additional $84,338 was provided to support two northern feeder service routes to the communities of Deschambault Lake, Sandy Bay and Pelican Narrows.

The Rural Bus Subsidy Program provided $127,759 in funding to support four routes served by private carriers.

Other Highlights

The department provided lighting at three roadway locations, 45 highway intersections and one weigh scale site at a cost of $707,716.

182,094 calls were handled on the department's Hotline Winter Road Information Service.

317 purchase orders for construction and maintenance materials valued at $29,613,965 were processed.

962 payments to contractors were processed totalling $62,858,227.

Bridge Branch

Engineering Bridges for the Future

The Bridge Branch is responsible for managing the investment in the bridge component of the department's infrastructure.

Design

Design was completed for four bridge projects involving 1 050 m2 of roadway area, and for four traffic barrier retrofits totalling 170 m.

Detailed structural assessments were undertaken for 13 existing bridges, and a design was subsequently undertaken for the strengthening of the Gabriel's Bridge located over the South Saskatchewan River between Wakaw and Rosthern.

Construction

Construction was completed on the new railway subway located over the Yellowhead Highway at Lloydminster. A pedestrian walkway was added to the Muskoday Bridge located on Highway No. 3 southeast of Prince Albert.

A major betterment was completed on a railway overpass located on the Trans Canada Highway near Broadview. The work included strengthening of the superstructure to accommodate the current operational level of vehicle weights, and the installation of a cathodic protection system on the concrete deck.

Strengthening was also undertaken for the Petrofka Bridge located north of Saskatoon, for the Clearwater River Bridge near La Loche and for the Martineau River Bridge near Pierceland.

A new bridge near Meadow Lake was constructed with standard modular components of precast concrete, and traffic barrier safety improvements were completed on another nine bridges.

Maintenance

Bridge deck restoration projects were undertaken on five bridges. A cathodic protection system was installed on four of these decks, and a waterproofing membrane with pavement installed on the other deck.

Minor repairs were completed on another 183 bridges throughout the highway system. Eight bridges were replaced with culverts.

Other Highlights

Programmed inspections were done on 172 bridges, and the concrete decks of another 21 bridges were monitored for damage caused by reinforcing steel corrosion.

The branch assisted in the evaluation of 22 permit requests associated with the bulk commodity haul policy, and the reviewed 765 referrals for single trip vehicle permits.

Works Branch

Works Branch functions in four main areas: grading, surfacing, bridges and winter road construction. The branch provides these and other specialized construction services for Saskatchewan Highways and Transportation and other government departments and agencies.

The branch employs between 75 and 100 people during the construction season. These include equipment operators. truck drivers, plant operators, cooks, administrative personnel and supervisors. The nature of work usually requires people to be away from home for long periods of time, working out of mobile self-contained camps.

Grading Section

One grading crew moved 275 300 m3 of earth material with the use of private and government equipment. Work was carried out on Highway No. 913-01, 165-02, 9-15 Woody Lake Road and McBride Lake area; Highway No. 102-28, 905-01 north of La Ronge, Highway 135-01 and 135-02 Sandy Bay area.

Surfacing Section

Two surfacing crews completed various road and custom work projects throughout the province. Projects included 18 km ripping and drying grade and shoulders on various highways; 15.9 km oil treatment and hauled and placed 41 331 m3 material in Regina and Yorkton Districts. There were 9,698 depressions filled on various highway surfaces requiring 977 tonnes of sand, sulphur, asphalt mix which consisted of 4,651 batches.

Bridge Section

The five bridge crews worked on 29 new construction projects and repaired 211 bridges for Saskatchewan Highways and Transportation, Rural Development, and Sask Water Corporation. A total of six bridges had 4 456 m2 of major deck repairs, Cathodic protection and waterproofing.

Winter Roads

42 km of winter road was constructed to Wollaston Post over Wollaston Lake from Hidden Bay on Highway No. 905.

Training

Works Branch completed 92 man days of training in management, equipment repair and safety.

Swift Current District

The following are the accomplishments of Swift Current District during the past year involving, Construction, Design, Maintenance, and Materials Sectons in the District.

Maintenance

- Maintenance activities were carried out by 25 section crews, three sign crews and one landscape crew.
- Normal road repairs included:
  6.2 million square metres of spot sealing
  285,100 square metres of deep patching
- Materials used include:
  15.2 million litres of liquid asphalt
  48,900 tonnes of bituminous mix
  235,400 tonnes of crushed aggregate
  3,200 tonnes of screened aggregate
  9,500 tonnes of salt for ice control
- Contracts tendered:
  Two contracts for blading of 108 km of gravel surfaced roads
  Seven contracts for mowing of 6,920 hectares of right of way
  Also contracted were 240,100 tonnes of repair aggregate and 22,900 tonnes of bituminous mix
- Miscellaneous:
  Three new sign corridors were established
  The hotline handled 18,500 calls
  Repair depots in Swift Current and Rosetown provide mechanical service for 327 power and sundry pieces of equipment

Construction

- Construction included:
  19 contracts supervised, 20 km of subgrade construction completed with 12 km in progress.
  97 km of surfacing completed.
- Surfacing included:
  81 km of resurfacing as part of department rehabilitation program.
  Crews supervised 494 km of seal coat involving three contracts.
- Major construction projects include:
  grading Highway No. 21; from Govenlock south.
  resurfacing Highway No. 4; from Stewart Valley south,
  from Saskatchewan Landing to south of Kyle, and north of Rosetown.
  resurfacing Highway No. 7; from Rosetown to Fiske
  Surfacing Highway No. 15; from Sovereign to Highway No. 4

Design and Materials

- 37.9 km of preliminary field survey was completed.
- 70.5 km of subgrade design, primarily on Highway No. 21 north of the U.S. border;
- Highway No. 342 north of Beechy; No. 19 south of Hodgeville;
- No. 31 near Denzil and No.317 south of Cactus Lake.
- Two detailed location studies were completed for Highway 317 near Hoosier and Highway 342 near Beechy.
- Four hydraulic studies were completed for installations on Highway Nos.21, 42, 58, and 363.
- 172 roadside development and utility permit requests were assessed.
- The district lab carried out 8,074 individual tests on soil and gravel samples.
- 45 gravel pits were surveyed and 21 retested confirming 83,000m3 of gravel and 575,000m3 of sand.

Highlights

- Expansion of Beverly Weigh scale site including improved lighting.
- Salvage and stockpiling of 600,000 tonnes of aggregate from Sask. Landing Provincial Park.
- Upgrading of traffic signals on Highway 7 at Kindersley.
- Upgrading of lighting and installation of rumble strips at Riverhurst Ferry approaches.

Regina District

The following are the accomplishments of Regina District during the past year involving Maintenance, Construction, Design and Materials Sections with support provided by district Administration.

Maintenance

- Maintenance activities were carried out by 34 section crews and one special crew.
- Normal road repairs included:
  - 6.0 million square metres of spot seal
  - 58 300 square metres of deep patching
  - 413 000 square metres sprayed with asphalt
- Materials used included:
  - 10.4 million litres of liquid asphalt
  - 83 300 tonnes of bituminous mix
  - 240 000 tonnes of crushed aggregate
  - 14 700 tonnes of screened aggregate
  - 13 200 tonnes of salt was used for snow and ice control
- Contracts tendered included:
  - Three seal coat contracts on 450 km of oil treated surfaces and pavements
  - Three contracts for blading of 134 km of gravel surfaces
  - Nine contracts for mowing of 8 200 hectares of right-of-way
  - One contract for rubber asphalt crack sealing
  - Also contracted were 196 000 tonnes of repair aggregate and 71 600 tonnes of bituminous mix
- Permits issued for private works on or near highway rights-of-way included:
  - 163 permits for utility crossings
  - 48 permits for approaches and buildings
  - 23 permits for private signs
- An additional 10 signing corridors were established.
- Winter hotline handled over 50,000 calls from November to March.
- Equipment repair depots in Moose Jaw and Weyburn provided service for 480 power units and other various sundry equipment.

Construction

- Construction included 30 contracts supervised for:
  - 44 km of subgrade construction
  - 202 km of surfacing completed which includes 149 km of resurfacing as part of the rehabilitation program and seven km in progress at year end.
- Major construction projects included:
  - Four-lane section of Highway No. 11 between Aylesbury and Craik
  - Highway No. 35 from south of Cedoux to Highway No. 306
  - Test sections of polymer modified microsurfacing

Design

- 47 km of field survey was carried out
- 49 km of subgrade design was completed including Highway No. 2, north of Tuxford; Highway No. 6, north of Minton and Highway No. 8, south of Moosomin.
- Six rehabilitation projects were assessed covering 145 km.

Materials

- Materials studies completed were:
  - One new surfacing design, six rehabilitation designs, one slope stability analysis and one settlement remedy.
- Testing completed included:
  - 52 km of earth borrow
  - Five groundwater monitoring installations
  - 58 km of grade to be reconstructed
  - 46 gravel pits were tested, surveyed and updated
  - Three new gravel sources were tested and acquired.
- 527 800 cubic metres of gravel and 100 900 cubic metres of sand was removed for department use.
- 53 gravel permits were issued for removal of 163 000 cubic metres.

Highlights

- Safety improvements included:
  - Four bridge barrier upgradings
  - Flattening access slopes between Balgonie and Fort Qu'Appelle
  - Installation of a pedestrian crosswalk at CFB Moose Jaw
- An information site for the Moose Mountain Park area was constructed as part of the Tourist Facility Program.
- Landscaping included:
  - Aesthetic plantings at the Highway No. 1 tourist information site on the Manitoba border and along the Regina Bypass.
  - Plantings at various bridge sites to control snow drifting.
- Delineation lights were installed at nine locations and lighting extended at the Highway No. 6 and No. 11 interchange.
- Weigh scale pad extensions at the Regina west, Moosomin and Estevan scale sites were undertaken.
- Major shareable works included:
  - Albert Street upgrading and bridge rehabilitation at the Ring Road and Winnipeg Street interchange in Regina.
  - Upgrading traffic signal controllers in Estevan.
  - Walkway construction along highways at Fort San and Katepwa.
  - Airport operation and maintenance aided in eight communities.

Yorkton District

The following are the accomplishments of Yorkton District during the past year involving Maintenance, Construction, Design, and Materials sections with support provided by district Administration.

Maintenance

- Maintenance activities were carried out by 19 section crews.
- Normal road repairs included:
  3.5 million square metres of spot seal
  26,830 square metres of deep patching
  679,000 square metres sprayed with asphalt
- Materials used included:
  5.1 million litres of liquid asphalt
  37,415 tonnes of bituminous mix
  156,620 tonnes of crushed aggregate
  6,370 tonnes of screened aggregate
  8,180 tonnes of salt for ice and snow treatment
- Contracts tendered:
  Three contracts for blading 219.4 km of gravel surfaces
  Eight contracts for mowing 4,450 hectares of right of way
  One contract for rubber asphalt crack sealing
  Also contracted were 126,500 tonnes of repair aggregate and 39,060 tonnes of bituminous mix.
- Permits issued for private works on or near the right-of-way included:
  34 permits for approaches
  Seven permits for private signs
- Winter hotline handled 7,500 calls from November to March
- The Repair Depot in Yorkton provided service for 270 power units and various sundry equipment.

Construction

- Construction included:
  15 contracts supervised
  118 km of surfacing with 29 km carried over to 1991-92
- Surfacing included:
  83 km of resurfacing as part of the department rehabilitation program
- Crews supervised 262 km of seal coat involving two contracts
- Major reconstruction projects included:
  Resurfacing of Highway No. 5 from West of Margo to Kylemore
  Resurfacing of Highway No. 3 from Hudson Bay to Prairie River

Design

- 42 km of preliminary field survey was carried out
- 30 km of subgrade design was completed including Highway No. 349, east of Archerwill; Highway No. 309, west of Rhein
- Five rehabilitation projects were assessed covering 102 km
- Two surfacing projects were assessed covering 31 km

Materials

- Granular Location:
  Identified 28 new granular deposits
  Retested 11 existing pits
  Verified 2,339,710 m3 of new granular material
  Located 619,640 m3 of material for seven municipalities on a custom work basis
- Granular Materials Usage:
  Used 704,044 m3 for district construction and maintenance
  Issued 15 permits for 23 179 m3 of granular materials
- Sampling and Testing
  Completed 52 km of subgrade assessment
  Completed 11 asphalt mix designs
  Performed various tests on 6,000 samples

Highlights

- Administered one of the department's first End Product Specification contracts (Highway 16 - Yorkton to Springside)
- Yorkton shop developed a gravel reclaimer which was used on contract seals in the district. The gravel reclaimer sweeps gravel used in the seal coating process into a hopper where an auger moves the gravel onto a conveyor belt which dumps directly into the truck pulling the reclaimer.
  During the reclaimer's first season in 1990, it picked up 3 900 tonnes of gravel at a cost of approximately $7.00 per tonne.
  In 1991 the reclaimer is expected to salvage aggregate at an even lesser cost as it has been modified for more efficiency.
- A small research project was done once again on rejuvenating oils for surface softening. Three different products were used and results are still being monitored. In Sandvik blade work, hot weather and timing seem to be important factors.
- Loadometer site constructed west of Hudson Bay
- Delineation lights were installed at seven locations
- Safety improvements included:
  Construction and surfacing of five intersection treatments
  Installation of pedestrian crossing signals at Wynyard
- Major shareable works included:
  Upgrading of traffic signal controllers in Yorkton
  Resurfacing of Highway No. 49 through Preeceville and Highway No. 8 through Rocanville
  Installation of pedestrian crossing signals at Canora
  Funding provided to help airport operation and maintenance in six communities.

Saskatoon District

The following are the accomplishments of Saskatoon District during the past year involving Maintenance, Construction, Design and Materials Sections with support provided by district Administration.

Maintenance

- Maintenance activities were carried out by 16 section crews.
- Normal road repairs included:
  2.32 million square metres of spot seal
  18 012 square metres of deep patching
  444 000 square metres flushed with asphalt
- Materials used included:
  8.25 million litres of liquid asphalt
  24 866 tonnes of bituminous mix
  100 535 tonnes of crushed aggregate
  13 615 tonnes of screened aggregate
  11 500 tonnes of salt for ice and snow treatment
- Contracts tendered:
  Three contracts for mowing of 1 988 hectares of right-of-way
  One contract for rubber asphalt crack sealing
  Also contracted were 119 845 tonnes of repair aggregate and 27 273 tonnes of bituminous mix.
- Permits issued for private works on or near the rights-of-way included:
  127 permits for utility crossings
  eight permits for approaches
  seven permits for private signs
- An additional six sign corridors were established.
- Winter hotline handled over 27,897 calls from November to March.
- Repair depot in Saskatoon provided service for 295 power units and various sundry equipment.

Construction

- Construction included:
  34 contracts supervised
  32 km of subgrade construction completed
- Surfacing included:
  61 km of surfacing completed
  51 km of resurfacing as part of the department rehabilitation program
- Crews supervised 269 km of seal coat involving one contract.
- Major reconstruction projects include:
  Four lane section of Highway No. 11 between Davidson and Kenaston
  Surfacing of the new four lane section of No. 16 Highway from Dalmeny to Langham

Design

- Design included:
  52 km of preliminary field survey was carried out
  52 km of subgrade design was completed including Highways No. 60 and No. 312
  Four rehabilitation projects were assessed covering 83 km

Materials

- Completed were:
  Two new surfacing designs
  15 rehabilitation designs
  One settlement area was monitored
  23 pits were retested, surveyed and updated
  41 gravel permits for removal of 47 000 m3 were issued
  395 000 m3 of gravel and 112 000 m3 of sand were removed for department use

Highlights

- Supervised the installation of offset, high pressure sodium vapour lighting along No. 16 Highway north of Saskatoon.
- Designed and supervised construction of erosion control on No. 41 Highway east of Yellow Creek.
- Assessed 191 parcels, for aggregates sources, prior to sale by Saskatchewan Agriculture.
- New salt bins were constructed at Watrous, Nokomis and Raymore.

Prince Albert District

The following are the accomplishments of Prince Albert District during the past year involving Maintenance, Construction, Design, Materials sections with support provided by district Administration.

Maintenance

- Maintenance activities were carried out by 32 section crews and two special crews.
- Normal road repairs included:
  2.7 million square metres of spot seal
  278 000 square metres of deep patching
  620 000 square metes sprayed with asphalt
  Subgrade stabilization done on 45 km of gravel surfaces
- Materials used included:
  16.4 million litres of liquid asphalt
  33 000 tonnes of bituminous mix
  341 000 tonnes of crushed aggregate
  16 200 tonnes of screened aggregate
  5 500 tonnes of salt for ice and snow treatment
  425 kilometres of gravel highways dust treated with CaCl2
- Contracts tendered:
  Four contracts for blading. 816 km of gravel surfaces on logging roads
  Four contracts for blading of 398 km of gravel surfaces (Highways)
  Ten contracts for mowing of 6,300 hectares of right-of-way
  One contract for rubber asphalt crack sealing
  Also contracted were 225 000 tonnes of repair aggregate and 20 500 tonnes of bituminous mix
- Permits issued for private works on or near the rights-of-way included:
  145 permits for utility crossings
  35 permits for approaches
  19 permits for private signs
- An additional eight sign corridors were established.
- Winter hotline handled over 7,800 calls from November to March.
- The repair depot in Prince Albert provided service for 480 units.

Construction

- Construction included:
  27 contracts supervised, 59 km of subgrade construction completed and 145 km of surfacing completed
- Surfacing included:
  36 km of resurfacing as part of the department's rehabilitation program including one end product contract
- Crews supervised 307 km of seal coat involving two contracts
- Major reconstruction projects included:
  Surfacing Highway No. 106 in the vicinity of Big Sandy Lake; grading and surfacing Highway No. 335 east of Gronlid, grading on Highway No. 3 west of Mistatim, surfacing on Highway No. 41 west of Highway No. 368 and grading on Highway No. 55 near the Carrot River.

Design

- 47 km of preliminary field survey was carried out
- 24 km of subgrade design was completed including Highway No. 302 west of Prince Albert and 123 north of Carrot River
- 40 subdivision proposals were reviewed

Materials

- Eight rehabilitation designs, one comprehensive slope stability analysis, three geotechnical assessments were undertaken
- 24 pits were retested, surveyed and updated
  Four new gravel sources were tested
  43 gravel permits were issued
- 607 000 m3 of gravel and 188 000 m3 of sand were removed for department use
- The district lab completed 4,300 tests and completed eight mix designs

Highlights

- Miscellaneous projects included:
  Bridge replacement with culvert on Highway No. 3 east of Valparaiso
  Graderaises on Highways No. 102, No. 135 and No. 905
  Alignment improvements on Highways No. 913 and No. 165
  Landscaping in the vicinity of the interchange north of Prince Albert
- Delineation lights were installed at seven locations and lighting was installed at the Sandy Bay Airport
- Shareable work with municipalities included:
  Recapping on 6th Avenue East in Prince Albert
  Recapping on the Diefenbaker Bridge in Prince Albert
  Maintenance sharing on six municipal airports

North Battleford District

The following are the accomplishments of North Battleford District during the past year involving Maintenance, Construction, Design, Materials sections with support provided by district Administration.

Maintenance

- Maintenance activities were carried out by 27 section crews, 2 airport crews and 3 special crews.
- Normal road repairs included:
  2.9 million square metres of spot seal
  223 100 square metres of deep patching
  14 100 square metres sprayed with asphalt
- Materials used included:
  7.7 million litres of liquid asphalt
  24 000 tonnes of bituminous mix
  214 200 tonnes of crushed aggregate
  7 800 tonnes of screened aggregate
  6 700 tonnes of salt for ice and snow treatment
- Contracts tendered:
  Three contracts for blading of 83 km of gravel surface
  Seven contracts for mowing of 4 120 hectares of rights-of-way
  Also contracted were 214 200 tonnes of repair aggregate and 24 000 tonnes of bituminous mix
- Permits issued for private works on or near the rights-of-way included:
  150 permits for utility crossings
  30 permits for approaches
  17 permits for private signs
- An additional seven sign corridors were established
- Winter hotline handled over 7,400 calls from November to March
- Repair depot in North Battleford provided service for 320 power units and various sundry equipment

Construction

- Construction included:
  16 contracts supervised, 38 km of subgrade construction completed and 90 km of surfacing completed. The surfacing includes 56 km as part of the department rehabilitation program.
- Crews supervised 338 km of seal coat involving three contracts
- Major reconstruction projects include:
  Grading on Highway No. 304 west of Meadow Lake and Highway No. 903 north of Meadow Lake
  Surfacing of Highway No. 12 south of Blaine Lake, Highway No. 16 from Maidstone to east of Marshall and Highway No. 21 south of the junction with Highway No. 3
  Grading of the runway extension Ile-A-La-Crosse airport and surfacing of the runway, taxiway and parking apron

Design

29 km of preliminary field survey was carried out

37 km of subgrade design were completed; major design projects include Highway No. 4 south of Meadow Lake and Highway No. 55 east of Green Lake

Materials

- Completed :
  Four pits were retested, eight surveyed and updated
  Three new gravel sources were tested
  20 gravel permits for removal of 48 000 m3 were issued
  381 160 m3 of gravel and 61 670 m3 of sand were removed for department use

Highlights

- Safety improvements included:
  Construction of a cable guardrail at the Beaver River Bridge on Highway No. 21 south of Pierceland
  Installation of traffic signals and area lighting on Highway No. 16 at the intersection with the Husky Oil Bi-Provincial Upgrader access east of Lloydminster
  Delineation lights were installed at 10 locations
- Shareable works included:
  Financial assistance to five communities
  Funding was provided to help airport operation, runway and NDB maintenance at one community
- 27 subdivision proposals reviewed.

Summary of Kilometres of Work Accomplished 1990-91

			Grading		Surfacing				
Control Section	Location	Dist.	Comp. (111)	U.C.	Pave. A (161)	Pave. C (141)	Pave. D (131)	Rehab (181)	U.C.
1-01-00 A	Manitoba Border to Moosomin(Sections)	2						4.12	
1-02-00 A	West of Wapella to Whitewood	2							12.58
1-03-00 A	At Whitewood	2							0.35
1-06-00 B	Qu'Appelle East	2						0.66	
1-07-00 B	Qu'Appelle to McLean	2						14.15	
1-08-00 B	At Regina	2						0.12	
1-09-00 A	Regina Bypass	2						1.07	
1-09-00 B	Regina Bypass	2						7.59	
1-13-00 A	Caronport to East of Mortlach	2						15.87	
1-19-30 A	Beverley Scale Site	1	1.00		1.45				
1-19-6R A	Connector between Jct. 1 & 32					1.36			
3-01-00 A	At Erwood	3						0.81	
3-02-00 A	At Hudson Bay	3						0.66	
3-03-00 A	Hudson Bay to Prairie River	3						40.91	
3-04-00 A	Mistatim to Jct. 23	5	14.90	3.10					
3-06-00 A	Jct. 6 East	5						0.45	
3-07-00 A	Melfort to Beatty	5						14.18	
3-13-00 A	Mont Nebo to Shell Lake	5						27.59	
4-05-00 A	North of Swift Current to Stewart Valley	1						23.55	
4-06-00 A	Sask Landing to South of Kyle	1						15.63	
4-09-00 A	Rosetown North	1						7.07	
5-04-00 A	Margo to Kylemore	3						18.76	
6-10-00 A	Watson South	4						24.38	
6-13-30 A	Melfort Weigh Scale	5						0.30	
7-03-00 A	Delisle to Tessier	4						11.70	
7-05-00 A	Rosetown to Fiske	1						28.40	
8-02-00 A	Jct. 18 to Jct. 361	2				23.20			
8-05-00 A	Rocanville North	3			14.73				
8-06-00 A	Qu'Appelle Valley North	3			3.32				
9-02-00 A	Carlyle South	2						13.25	
9-04-00 A	Whitewood South	2						16.68	
9-12-00 A	North of Preeceville to Usherville	3			10.10				14.88
9-12-40 A	Endeavour Access	3			1.93				
9-14-00 A	Hudson Bay South	3						4.39	
9-15-00 A	East of Jct. 55 to West of Manitoba Border	3	13.20						
9-15-00 A	North of Hudson Bay	3	1.40						
11-05-00 B	Northwest of Aylesbury to Southeast of Craik	2	8.87		8.87				
11-06-00 A	Bladworth to Kenaston	4			11.49				
11-06-00 B	North of Davidson to South	4	10.15		10.15				
11-08-00 A	Saskatoon South	4						3.52	
11-08-00 B	Saskatoon South	4						3.50	
12-02-00 A	Blaine Lake South	6						20.91	
13-06-00 A	At Weyburn	2						1.56	
13-10-00 A	Assiniboia East	2	12.09		0.13				
15-06-00 A	Leross to East of Punnichy	3			5.11				14.03
15-13-00 A	Sovereign to Rosetown	1						19.20	
16-13-00 A	Yorkton to Springside	3						23.28	
16-13-00 A	At Yorkton	3						0.55	

Control Section	Location	Dist.	Grading		Surfacing				
			Comp. (111)	U.C.	Pave. A (161)	Pave. C (141)	Pave. D (131)	Rehab (181)	U.C.
16-18-00 A	Jct. 6 to Esk	4						14.85	
16-21-00 A	At Saskatoon	4						1.50	
16-23-00 B	Langham Southeast	4			15.36				3.00
16-24-8R A	Service Road at Radisson	4	1.31				1.31		
16-29-00 A	Maidstone to East of Marshall	6						32.27	
16-30-00 A	At Lloydminster (4 Lane)	6	1.80		2.54				
17-03-00 A	Alberta Jct. 14 South	6			16.55				
17-03-00 A	Dillberry Lake to S.H. 610	6			14.57				
21-01-00 A	Govenlock South	1	14.22						
21-07-00 A	North of Jct. 1	1	1.50						
21-15-00 A	Jct. 303 to Jct. 3	6			16.40				
31-04-00 A	Salvador to Denzil	1	3.50	13.50					
35-04-00 A	South of Cedoux to Jct. 306	2	8.07		15.10				
35-10-40 A	Wishart Access	3			3.29				
35-16-40 A	Jct. 55 South	5						0.50	
39-02-00 B	Estevan East	2	0.87		2.13				
39-03-00 A	Estevan to Macoun	2						19.50	
39-05-00 A	At Weyburn	2						1.30	
39-05-00 B	At Weyburn	2			2.00				
39-07-00 A	Jct. 6 to Pitman	2						34.18	
39-08-00 A	Pitman to Drinkwater	2						11.18	
41-01-00 A	Jct. 368 to Meskanaw	5			19.60				
41-01-00 A	Meskanaw to Jct. 20	5			5.80				15.00
48-03-00 A	West of Kipling to West	2	15.75						
48-03-8R A	At Windthorst	2	1.76						
55-04-00 A	East of the Carrot River to East of Jct. 123	5	11.50	0.90		11.50			0.09
55-05-00 A	Jct. 23 West	5						1.30	
55-06-00 A	Nipawin to White Fox	5						11.40	
55-07-00 A	At White Fox	5						0.71	
55-07-6L A	At Jct. 35	5						0.68	
55-12-00 A	Jct. 924 South	5	9.46						
55-13-00 A	Jct. 924 North	5	0.75						
106-01-00 A	Jct. 120 South	5	2.71						
106-03-00 A	Big Sandy Lake East	5					20.50		
165-02-00 A	Jct. 910 East	5	0.63						
221-01-10 A	Cypress Hills Provincial Park Internal Roads	1						0.70	
221-01-1B A	Cypress Hills Provincial Park Internal Roads	1						1.13	
221-01-1C A	Cypress Hills Provincial Park Internal Roads	1						0.10	
229-01-00 A	At Good Spirit Provincial Park	3			0.35				
229-01-1A A	Internal Park Roads Good Spirit Provincial Park	3			0.84		6.63		
229-01-1B A	Internal Park Roads Good Spirit Provincial Park	3					0.71		
229-01-1C A	Internal Park Roads Good Spirit Provincial Park	3					0.25		
247-01-1A A	Crooked Lake Campsite	3					0.50		
302-02-00 A	West of Prince Albert	5	13.13						
303-02-00 A	West of Highway 21	6	5.50						
304-01-00 A	Meadow Lake West	6	16.88						
304-01-8L A	East of Nesset Lake	6	0.25						
304-01-8R A	West of Nesset Lake	6	0.34						
305-01-00 A	Jct. 11 to Warman	4	1.67		1.67				

Control Section	Location	Dist.	Grading		Surfacing				
			Comp. (111)	U.C.	Pave. A (161)	Pave. C (141)	Pave. D (131)	Rehab (181)	U.C.
310-03-00 A	Foam Lake South	3				2.40			
312-02-00 A	Rosthern to Laird	4	18.12						
312-02-8L A	At Rosthern (Service Road)	4	0.32						
335-02-00 A	Gronlid East	5	16.35			16.35			
361-11-00 A	Storthoaks Access to Jct. 8	2				3.33			
361-11-40 A	Storthoaks Access	2				0.29			
361-13-00 A	At Lampman	2						1.30	
903-02-00 A	Jct. 965 South	6	4.68						
903-03-00 A	Jct. 965 North	6	13.80						
908-01-90 A	Ile-A-La-Crosse Airstrip Access	6	0.62						
910-01-00 A	Jct. 165 North	5	0.73						
913-01-00 A	White Gull Lake to Jct. 912 (sections)	5	7.28						
922-02-00 A	Revo Lake Road	5	21.00						
924-01-00 A	Jct. 55 Northeast	6	1.33						
942-01-00 A	Cowan Lake Road	5	13.00						
903-03-00 A	Canoe Lake to Parker Lake	6	8.20	9.60					
			278.66	27.10	184.84	57.07	29.90	497.41	60.74

Location	Grading		Surfacing				
	Comp. (111)	U.C.	Pave. A (161)	Pave. C (141)	Pave. D (131)	Rehab (181)	U.C.
District 1	20.22	13.50	2.81			95.78	
District 2	47.43		28.23	26.82		142.53	12.93
District 3	14.60		39.67	2.40	8.09	89.36	28.91
District 4	31.57		38.67		1.31	59.45	3.00
District 5	111.44	4.00	25.40	27.85	20.50	57.11	15.90
District 6	53.40	9.60	50.06			53.18	
TOTAL	278.66	27.10	184.84	57.07	29.90	497.41	60.74

Control Section - A permanent unit of the highway system which becomes the basic reporting unit for construction and maintenance costs, service life characteristics, and various other data.

Grading - Completed (Comp.) - Grading completed within the year being reported.

Grading - Under Construction (U.C.) - The under construction portion of the project which is being carried over to be done in the next construction season.

Rehabilitation - Work such as pavement re-surfacing, carried out to restore a roadway to the standard to which it was constructed. This is warranted when maintenance operations are no longer adequate or appropriate. Differs from upgrading in that the design standard is not improved.

Pavement "A", "C" and "D" - Represents different types of surfacing structures.

Surfacing - Under Construction - The paving of the project which is being carried over to be done in the next construction season.

Engineering Division

Bernhard H. Wiens
Minister
Highways and Transportation

J.R. Sutherland
Deputy Minister

Don Metz
Executive Director

Al Popoff
Design and Traffic
Safety Branch

John Palaschuk
Equipment Branch

George Stamatin[illegible]
Surfacing
Branch

Barry Martin
Maintenance Branch

Al Widger
Geotechnical
and Materials
Branch

Bernie Churko
Transportation
Systems Branch

Engineering Division staff focus engineering knowledge standards and services for the development and maintenance of the transportation systems.

Engineering expertise provided includes:

- Geometric design and traffic engineering
- Equipment fleet management
- Maintenance engineering
- Pavement management
- Bulk commodity transport
- Testing and materials

Details of specific services and accomplishments are provided in individual branch reports.

D. G. Metz
Executive Director
Engineering Division

Equipment Branch

Equipment Branch's mandate is to provide policies, standards, specifications and expertise for the purchase, maintenance, repair and disposal of the department equipment fleet; to provide a service to equipment users on all equipment needs and to provide information and data for fleet management. Major areas of responsibilities are:

- Develop the annual equipment budget.
- Purchase all equipment and related items.
- Manage and operate the department's Equipment Management Information System (EMIS).
- Analyze fleet trends and provide information and data on fleet management.
- Develop policies standards and procedures related to the purchase, repair, maintenance and disposal of equipment.
- Set rental rates for department owned equipment and for equipment used on Saskatchewan Highways and Transportation contracts and projects.
- Administer the department's mobile/radio telephone communications system.
- Provide technical guidance and expertise on matters related to the equipment fleet.
- Administer the department's fleet of C.V.A. vehicles.

The department's current fleet consists of 2,297 units, including trucks, tractors, graders, mowers, compactors, sweeper brooms, trailers, camp equipment and heavy construction equipment.

Fleet Operation

The cost of operating the department's equipment for the year was $20.8 million. Repairs cost $6.6 million, fuel and other operating costs $6.2 million, ownership costs were $3.3 million and $4.7 million was spent on administration. The cost of operating the fleet was 2.5% higher than in 1989-90.

Equipment Purchases

In 1990-91, the equipment budget was $4.86 million. Of this total, $4.0 million was expended on new equipment acquisitions. The remainder of the budget was expended on preparing new equipment for field use, modifying existing equipment, purchasing shop equipment and tools and for emergency purchases. 83 requisitions were raised to purchase major equipment, support equipment, shop equipment and tools. The current capital cost of Saskatchewan Highways and Transportation equipment fleet is $70 million.

Rental Rates

The force account rental rates in 1990-91 remained the same as in 1989-90. The equipment rental rate books were distributed to some 300 contractors, equipment dealers, trucking firms, towns, cities and other government departments and agencies.

Rental rates for department owned equipment were calculated on a provincial basis. The 1990-91 rental rates were 2.5% higher than the previous year.

C.V.A. Fleet

C.V.A. Fleet Central Vehicle Agency supplied a total of 400 units to the department. Units supplied were cars, vans, Suburbans, and trucks up to one ton. 175 of these were classed as "A" units in which the department pays back C.V.A. a monthly charge for purchasing the vehicles and is responsible for maintenance and repair costs. 225 units were leased on a per km basis where the department pays for the units based on the number of km driven.

Equipment Management Information System (EMIS)

The EMIS Users Support Committee carried out an extensive review of the equipment system that has been in use since 1983. As a result of the review, the system has been approved for replacement in the next three - five years.

SAS has been used extensively lately to extract a variety of data from EMIS. The data has been used to analyze various fleet rends in the following areas:

- Fleet size
- Aging
- Age vs. usage
- Utilization

Further analyses are currently being conducted in the area of repair and operating expenditures and will be made available as they are completed.

The preventative maintenance program that was being developed has received final approval.

A Quick Service work order has been developed and is currently in use.

A report on Repair Farm Outs has been developed to identify repair work farmed out to the private sector.

Geotechnical and Materials Branch

Focus Statement

Excellence in Testing and Materials Technology.

Branch Function

To provide current geotechnical and materials policies, standards, specifications, procedures, testing and engineering expertise for the planning, design, construction and maintenance of the provincial highways, roads and airports; and to provide central laboratory services, specialized field sampling and data collecting for a safe efficient and effective transportation system for the Province of Saskatchewan.

Standards and Policies

Work continued on many studies related to geotechnical standards and policies. Research and field trials were started in the area of seal coat construction and performance for the Flying Stones study.

The asphalt cement specification was rewritten to include pay adjustments. The new general provision for purchase of asphalt and new terms and conditions of tender and supply was updated. Field trials of a Rapid Setting High Float emulsion were conducted and a spec developed for tendering. The new salt specification with pay adjustments was monitored for effectiveness.

Major work continued on revisions to the standard test procedures required for End Product Specification.

Consultation Services

Geotechnical and Materials Branch participated in design reviews as well as providing formal comments or recommendations on projects. Branch personnel conducted job inspections and attended district meetings to provide advise and assistance. Branch staff participated in many department committees and research activities.

Lab Services

Renovations were completed in the asphalt mix area of the lab to improve use of space and equipment and improve air quality.

Central lab conducted more than 14,200 tests to evaluate materials for highway design, construction, maintenance and research. Tests were completed on 2,103 asphalt product samples to check for specification compliance. Lab testing was conducted for the following special studies.

- C-SHRP/SHRP field and lab work
- Evaluation of anti-stripping products
- Asphalt mix segregation
- Slurry seals
- Materials testing for rubber asphalt crack sealants
- Rutting study Phase II
- Asphalt rejuvinators
- Intensive testing of asphalt products
- Chlorothene alternatives

The branch provided 60 portable labs and four coring machines to the districts for quality control testing on construction projects.

Central lab provided all laboratory services for Regina District as well as asphalt mix designs for Swift Current District. A total of 17 Marshall Mix Designs were prepared. Specialty testing of asphalt mixes was provided for all districts. Central Lab provided all specialized soils testing for the department. Traffic paints were evaluated in order to pre-qualify materials for tendering. Quality control testing was completed on glass beads. Testing of salt was increased. Specialized testing services were provided for other agencies.

Central lab participated in the National Asphalt Mix exchange and hosted the National Asphalt exchange program in order to ensure accurate testing procedures and results are achieved. A mini mix exchange was conducted with the district labs to check on uniformity of test results.

Site Investigation

Site investigations which included test drilling, soil sampling and soil property testing were completed on seven bridge sites. Drilling was undertaken at eight sites to obtain design information and study possible

movements. A total of 3 610 m of test holes were bored. Monitoring of instrumentation was continued at active sites. A new PC based Slope Indicator program was introduced.

Surface Condition Testing

Benkelman Beam deflection tests were completed on 2 110 km of pavements resulting in a total of 17,200 tests. Additional sections were tested for urban assistance projects and for research purposes. Riding quality was assessed on 12 150 km of pavements and five runs on 8 450 km of oil treated surfaces using the car road meters for a total of 55 000 km of testing.

Skid tests were taken on major bridge decks and overpasses to detect or study slippery conditions for safety concerns. In addition testing was completed on research projects and SHRP/C-SHRP sites plus custom work on Manitoba's sites. The branch provided technical support and surface condition testing for PMIS. The PURD was used to collect surface condition data on 3 600 km of the highway system.

The new california profilograph was evaluated at test sites on 19 control sections and used to control two EPS contracts. Three new profilographs were purchased for the districts.

Staff Training

The branch reacted to the department's technical training needs by continuing its involvement in technical training. A total of 13 days of training were given in the following classes:

- Asphalt Lab Seminar (one course)
- Maintenance Basic Soils (two courses)
- Maintenance Basic Asphalt (two courses)
- Geometric Design Course (Geotechnical and Environmental Modules)

Branch staff arranged a number of workshops and took a number of development courses.

Environmental and Cultural Liaison

Geotechnical and Materials Branch continued its role as contact with Saskatchewan Environment and Public Safety to co-ordinate submissions and obtain project approvals.

The branch, as the official liaison with the Family Foundation, Heritage Branch on heritage resource concerns, submitted and received approval for the current projects on the Capital Program as well as obtained clearance for projects on the long range program.

Design and Traffic Safety Branch

The focus of the branch is: To promote safe and economical provincial highways by managing the development of standards, policies and procedures governing geometric and hydraulic designs, roadway illumination, roadside development and traffic control devices; and to provide traffic engineering services and guidance to the department by managing data collection systems about traffic characteristics and special studies. To achieve this mandate the branch is responsible for the following activities:

A. Traffic Engineering

The Traffic Engineering section provides specialized traffic engineering services and guidance to the department and related agencies, to manage traffic data collection systems for traffic characteristics and traffic accidents and to develop traffic operations standards and to undertake safety studies.

Traffic Accident Information System

The Traffic Accident Information System (TAIS) has now completed 12 years of successful operation. Detailed information about 447,500 traffic accidents is available for studying traffic safety. TAIS is used extensively to develop and monitor accident countermeasure programs by various agencies.

A traffic accident facts report summarizing the 1990 accidents is published and 4,000 copies circulated. 1,000 posters and 10,000 pamphlets highlighting TAIS information are distributed. Driver educators use the information to train new drivers.

1,100 customized accident summaries were distributed to local governments. TAIS data is used by others to carry out special studies. Specialized reports are made available to user agencies on a monthly and quarterly basis.

A redesign of the TAIS is nearing completion. It will become the first Local Area Network based traffic accident system in North America operating in UNIX. The greatest benefit of the new TAIS system is that accident information is now more accessible and electronically distributed for analysis.

Safety Improvement and Traffic Analysis Studies

The department emphasizes safety improvements on provincial highways. Improvements at problem locations and overall system safety improvements continue to be an effective means of upgrading the highway to reduce accidents and injuries. Fatalities on the Provincial Highway system decreased from 140 in 1980 to 77 in 1990.

The Design and Traffic Safety Branch carried out 60 reviews and studies concerning traffic operational problems, speed zone requests and accident prone locations.

A manual is under development to provide guidelines for traffic operation activities. Several sections have been completed which include:

- Speed control
- Flashing lights
- Stop, yield and curve signs
- Safety improvements
- Accident investigation procedure
- Weigh scale facilities
- Rumble strips and delineators

Many department functions, such as planning and design standards, rely heavily on data about traffic characteristics. The branch gathers and analyzes comprehensive traffic information throughout the province. Traffic samples were taken at approximately 850 of the 3,400 locations. The short term counts are calibrated by data from 39 permanent locations that operate continually through the year.

The traffic engineering section, carries out special traffic studies, research projects, and provides specialist advice and assistance on matters relating to traffic characteristics. Specific activities undertaken involved obtaining traffic movements, vehicle classification counts and speeds on the provincial highway system.

The equipment to gather traffic information has been upgraded over a three year period from electro-mechanical technology to new electronic systems. This will considerably improve the accuracy and efficiency of data collection and processing. A desktop computer based Traffic Information System (TIS) was designed and implemented to manage and analyze traffic data in a local environment instead of a mainframe.

B. Geometric Design

The road design section provides ongoing consultation with the districts and others with respect to geometric design, culvert hydraulics, roadway lighting, roadside development and roadway design software.

A Geometric Design course was offered to department staff on February 25 to March 1, 1991. The course was delivered by branch staff assisted by guest lecturers and speakers.

Interim guidelines were issued for geometric standards on pavement rehabilitation projects. The guidelines set minimum shoulder widths to be provided and establish a process for identification and review of potential safety improvements at the time of pavement rehabilitation.

Users of the Hydraulic Manual were provided with software to assist with hydraulic designs using the principles contained in the Hydraulic Manual along with research information developed at the University of Saskatchewan.

A major study of intersections were initiated to review existing standards and warrants for intersection treatments. The three year study will lead to updating of existing criteria and development of new standards in support of changing traffic demands.

Training and Support of the EMXS Surface Compiler earthwork program has continued throughout the year. Two training courses were held for department staff. Two additional training courses were offered in co-operation with the SIAST for Engineering Consultants and other agencies in the province. This brings the two year total to almost 100 persons trained in the use of EMXS road design software.

The branch co-ordinated a study to determine the feasibility of using Total Station survey instruments in conjunction with existing survey practises. Standards are being drafted based on the study findings which will permit the use of specified total station survey methods. The branch is actively involved through the Drafting Standards Committee in the development of drafting standards for the department.

C. Traffic Control Devices

Uniformity of traffic control devices is a significant element for the maintenance of a safe and efficient highway system. Signs and signals have an important function to regulate, warn, guide and inform the motorist.

The traffic control section is responsible for the development and implementation of signing programs and policies. Special projects include the development of a traffic control devices manual for work zones and new directions in signing tourist facilities within the province.

The traffic control section administers the Private Signing Regulations. The Highway and Transportation Act controls the installation of private signing adjacent to provincial highways. Changes to the Act have allowed a greater flexibility in the number and type of signs allowed. This section continues to be active in implementing the changes.

The department uses 700 different signs. 20,000 signs were ordered during 1990-91 from an Edmonton supplier. This section is responsible for monitoring production, price, quality, durability, delivery, design, setting priorities and scheduling of the department's signing needs.

The traffic control section undertakes research and study of traffic control matters. Arrangements were made to use recycled aluminum for traffic signs.

Maintenance Branch

The focus for Maintenance Branch is protecting the transportation infrastructure and its users through maintenance engineering expertise and service.

Program Standards

The department maintained 25 660 km of provincial highways and provincial roads. The system was composed of 10 289 km of staged or standard pavement, 1 764 km of light pavement, 7 795 km of oil treatment and 5 811 km of gravel. This system consisted of 749 km of four lane highway and two lane roadways were divided into 2 776 km of arterial highways, 6 257 km of collector highways, 9 831 km of local highways and 5 298 km of provincial roads. The department also maintained 467 km of tourist facility roadways and sites, fourteen gravel airports and five paved airports.

The approved 1990-91 maintenance budget level of $91.70 million represented a 2.0% increase from the 1989-90 budget level. The department was again able to meet or exceed its objectives for surface maintenance. The Riding Comfort Index on oil treatments exceeded the 5.7 objective. This was achieved due to the continued use of the Sandvik blade on a motor grader which provides for easy recycling of existing oil treatments to improve the ride. The hot and dry weather during 1990 as in the past two or three years was also felt to be a contributing factor in easily achieving the objective.

The winter of 1990-91 was relatively normal and saw a return to historical usage levels for de-icing chemicals.

A major initiative for branch staff was involvement in the department thrust to improve quality of maintenance seal coating. This involved work on sweeping and rolling techniques, alternative equipment usage, etc.

The branch was actively involved as a partner in the U.S. Strategic Highway Research Program. This involved laying two test sections using standard maintenance repairs. The contractor, from Iowa, used the same materials, equipment and manpower to lay similar test sections in Manitoba and 11 north central states.

Pavement Marking

The branch striped 23 603 km of centreline and 21 976 km of shoulderline. The total striping was 1 240 km or 4% above last year's total. By December 15th, over 99% of the highway system centreline was at the target service level. A total of 21,976 pavement signs (arrows, shop bars, etc.) were marked during the year. Four airports were striped during the year by a private contract.

Testing of a prototype striper was continued during the year. This equipment applies a two component, long life paint with an air atomized system. It provides the department with a relatively inexpensive permanent marking which was not available previously and provides a technology which can be adopted by private industry. Using this equipment the department continued its program of providing long life "permanent" markings in high wear areas near urban centres. In 1990 a total of 146 402 m of stripe were applied under both maintenance and capital funding.

Weights and Dimensions

The continuing emphasis on weight and dimension within the branch and for the department was shown by the appointment of a professional engineer to look after this area. The major work for the new staff member was learning the complexities of the regulations and increasing consultations with industry for issues such as equipment design.

The use of the new Automated Permit System (APS) continued during the year. As the new system combines all transportation permits, the statistics for weight and dimension permits are not available. These figures will be available once future system enhancements are made.

In order to improve customer service the weight and dimension permit office introduced ACD (Automated Call Distribution) to its telephone system. This reduced the time that customers have to wait on the telephone.

The branch head continued to be involved with the Interjurisdictional Committee on Heavy Vehicle Weights and Dimensions. National regulatory principles for straight trucks, truck-trailer combinations and inter-city buses were incorporated into a draft national agreement. The committee also initiated discussions with U.S. border states on weight and dimension issues.

Surfacing Branch

The focus of Surfacing Branch is to develop and review surfacing policies, annual and long term pavement rehabilitation program needs, gravel location resource information, pavement riding quality information, pavement material quality control information and to provide consultative services on pavement design, construction and maintenance.

Pavement Rehabilitation Program

Annual pavement rehabilitation programs were developed for a two year period from panel rating information collected from the field assessment of 1 425 km of highway. The annual program developed by the branch consisted of approximately 410 kilometres of highways to be rehabilitated at a cost of $43 million. The program also included approximately 740 km of rehabilitation seal coats.

Pavement Management

The Pavement Management Information System (PMIS) accesses data from a number of systems such as the Highway Inventory System, Riding Comfort Index System, Traffic Information System and the PURD (Visual Condition Survey) system. Pavement performance models use the data to predict and evaluate various rehabilitation strategies. The strategies generated by PMIS assist the branch in evaluating and developing the annual and long term rehabilitation programs. Evaluation and refinement of the PMIS and the performance models are an on-going process to keep up with changes in department standards and technology.

The PMIS is directly linked to the Geographical Information System (GIS). This linkage allows the branch to produce maps displaying information from the PMIS, future construction programs, future condition of the highways system, etc. Research is also underway to incorporate existing aggregate resources into the GIS and perform long term aggregate needs studies within PMIS and GIS.

Standards and Policies

Two End Product Specification (EPS) contracts were tendered in 1990 as pilot projects. The work involved the placement of asphalt concrete rehabilitation overlays on Highway No. 16 west of Yorkton and Highway No. 3 west of Shellbrook. The pilots proved successful and as a consequence additional EPS type Rehabilitation overlay projects are programmed for 1991-92 construction.

New Pavement Condition Rating forms for the field assessment of candidate rehabilitation projects were developed for use during the 1991 spring rating. The new forms would better reflect the overall condition of the highway in terms of its function. The new form will provide information compatible with PMIS.

The branch revised the Aggregate Usage Chart for aggregate to be produced for construction and maintenance of pavements. The revisions reflect the changes that have occurred in the department standards for the design, construction and maintenance of the various pavement types in the highway network.

Pavement Riding and Material Quality Information Systems

The branch manages the Riding Comfort Index (RCI) System. RCI is a measure of the riding smoothness of the highway system. The RCI system provides department managers monthly and annual information on the riding smoothness of the highway network to assist them in directing the efficient expenditure of maintenance funds.

The branch manages the Quality Control System (QAS). The QAS collects and provides statistical analysis of quality control information on pavement construction materials. QAS is being converted from a Mainframe Computer System to a Portable Computer (PC) based system.

Sand and Gravel Policies and Standards

The branch is responsible for sand and gravel location policies and standards. The Acts, Regulations and Policies governing sand and gravel are presently under review to reflect current needs and practices.

Staff Training

The branch co-ordinated and conducted training courses on the use of GIS, AutoCAD and R:Base at the AutoCAD Training Center at the University of Regina. Training courses on seal coat technology were also co-ordinated by the branch.

Administrative Section

The focus of the administrative section is to provide knowledge, support and timely assistance to Engineering Division through specialized administrative services in the areas of drafting, secretarial services, data entry, budgeting, electronic technology and by co-ordinating the airphoto program, gravel resource inventory, and roadside development applications.

Airphoto Library

There were two contracts for airphoto work in 1990-91. Library staff acquired 1 526 km of photography and prepared 229 mosaic sheets.

There is a continued on-going program to up-date photography of our provincial highway system. Current photographs are necessary for highway planning, design and construction.

Roadside Development

206 development permits were issued and 174 subdivision requests were reviewed.

Gravel Resource Inventory

The division has information on approximately 4,075 gravel and sand areas in the province. The department owns and leases approximately 1,840 gravel pits which are used on the tendered construction contracts.

Transportation Systems Branch

The focus of the branch is to develop and recommend policies, administer programs, and provide specialized technical assistance leading to improvements in cost effectiveness, safety and adequacy of surface transportation systems.

Road Section

Bulk Commodity and Timber Transportation Policy

The road section staff negotiated several new agreements with shippers regarding industrial truck hauls pursuant to these policies. These included agreements with Millar Western Pulp as well as several logging contractors in northern Saskatchewan. There were several major revisions to Truck Haul Operating Plans from existing agreements related to new vehicle configurations, weight and dimension adjustments and road fees. These included the operating plans for Cameco and International Minerals & Chemicals Corp. (Canada) Ltd. Staff continued to administer all of the industrial truck haul agreements.

Overlength Vehicle Program

A triple trailer configuration equipped with a 36 foot lead trailer in combination with two 28 foot trailers was analyzed and approved for use under the terms and conditions of the Overlength Vehicle Policy. Staff continued to administer the program and monitor the performance of all participating carriers. New operating agreements were signed with Palm Dairies Ltd. and Weston Bakeries Ltd.

Staff also continued to work on a study to examine opportunities for providing more access on two lane highways during off peak hours for carriers operating long combination vehicles. A report is anticipated in 1991-92.

Interim Weight and Dimension Adjustment Program

This program enables commercial carriers to obtain permits to operate seven and eight axle "A" and "C" train combination trailer units at weights of 62.5 tonnes depending on hitching hardware used. Staff continued to administer the program throughout the year and issue permits as required. Changes were made to the axle loads on some configurations.

Aggregate Transportation Policy

The department has entered into several agreements with rural municipalities enabling them to obtain permits for crossing provincial highways while hauling gravel at weights in excess of legal limits. The program is ongoing and will remain accessible to all rural municipalities.

National "C" Dolly Specification

Staff assisted with drafting weight and dimension regulations for "C" trains to operate at a gross vehicle weight of 58 500 kg.

Transportation Technology Development Program

The road section administered the road segment of the Transportation Technology Development Program which is designed to encourage the private sector to pursue new technologies for the movement of bulk commodities on the highway system. The thrust of the program is to improve safety, productivity, and extend the service life of the highway infrastructure. Staff from the road section were involved with the following projects:

- Stabilizer Arm Tandem Dolly Convertor Project
  Staff continued to work with Advance Engineered Products Ltd., Westank-Willock, and Kleysen Transport Ltd. in the evaluation of a rear trailer stabilizer arm on a combination trailer unit equipped with a tandem axle dolly convertor. A report is anticipated in the 1991-92 fiscal year.
- Controlled Steering "C" Dolly
  The University of Michigan Transportation Research Institute was commissioned to design and construct a mechanical steering mechanism that can be used in conjunction with a dual drawbar "C" dolly equipped with a turntable style steering axle assembly. A dolly convertor owned by Rempel Trail Transportation Company was sent to Michigan and the new steering system was installed on it. The unit was put into service in 1990. The dolly convertor was

withdrawn from service due to poor performance in some road conditions. It is currently being analyzed to determine the modifications that are required to rectify the problem.

- Tri Axle Drive Power Unit
  Discussions are still underway with several carriers regarding the development of a highway tractor with three driving axles all located at the rear of the vehicle. The unique feature of the concept is that one of the rear driving axles is steered mechanically, a prerequisite for satisfactory performance of a power unit equipped with three driving axles. It is anticipated that a prototype may be put in service next fiscal year.
- Auto Locking "C" Dolly
  Staff in conjunction with Advance Engineered Products Ltd. and Federated Cooperatives Ltd. have been evaluating a prototype locking device for self steering "C" dollies. This device senses vehicle speed at the wheel of the dolly convertor. When the vehicle exceeds a speed of 50 km/h the mechanism drives a pin into the steering linkage of the axle that prevents it from steering. Three convertors were equipped with the sensing device. A report is anticipated in 1991-92.
- Miscellaneous Vehicle Evaluation
  The road section held discussions with the private sector regarding the possibility of developing other new concepts in the transportation equipment for the logging and petroleum industry. Several of these concepts could result in field demonstration projects in upcoming years.

Rail Section

Track Loading Study

A study to determine the maximum loading of low volume, slow speed prairie branch lines was commenced in March 1990 in conjunction with the road/rail project. The study is examining specific structure strengths of unrehabilitated track under various load, speed and seasonal parameters. The first phase of the study, completed in 1990-91, involved the determination of the maximum loading on the two rail lines used for the road/rail project using a computer simulation program. Phase two of the study, which commenced in 1990-91, involves in field instrumentation of the two lines under investigation in order to validate the computer model.

Branch Line Options Study

ADI Limited was retained to analyze the total transportation cost associated with alternative scenarios for operating the Dunelm, Shamrock and Central Butte branchlines. Protection orders for these three rail lines were rescinded by the federal government in 1990. The alternative analyzed included closure of both rail lines and elevators, operation of elevators as off-track elevators and operation of a short line railway. The study will be completed in 1991-92.

Saskatchewan Railway Act

A new Saskatchewan Railway Act replacing the current 1906 Saskatchewan Railway Act was passed and proclaimed in the provincial legislature in 1989. The act is drafted to respond to current rail transportation requirements of the province. The development of engineering and operational regulations, pursuant to the act continued.

Western Low Sulphur Coal to Ontario Initiative

Western Canadian coal accounts for a small portion of Ontario Hydro's fuel consumption. An Action Committee consisting of the Deputy Prime Minister and the premiers of Ontario, Saskatchewan, Alberta and British Columbia was formed to investigate ways of increasing the use of Western Canadian coal by Ontario Hydro. An Intergovernmental Secretariat to the Action Committee commissioned numerous studies looking at the feasibility of improving the competitiveness of Western Canadian coal. Saskatchewan Energy and Mines was the province's representative on the Secretariat. In 1988-89 the rail section, on behalf of Energy and Mines, participated in four intergovernmental studies looking at coal transportation costs and attempting to identify areas where these costs could be reduced. The four studies included: Taxes and Regulatory Costs on Rail and Pipelines Traffic, Laker Transportation, Thunder Bay Terminals and Railway Efficiencies and Impediments in the Carriage of Western Coal to Ontario. Another study, Project C-6, completed in 1990-91 looked at cost comparisons between Canadian and American railways in the movement of low sulphur coal to Ontario.

Transportation Technology Development Program

The rail section administered the rail portion of the Transportation Technology Development Program. Major emphasis has been placed by the section on implementing the road/rail demonstration project. The road/rail concept involves the use of a hybrid hi-rail tractor capable of travelling on existing roads and moving onto branchlines for spotting and picking up grain cars at elevator points along the line for interchange with a main line carrier. The road/rail vehicle is new technology developed in the province to improve the efficiencies of moving grain off low volume-high cost branchlines. The purpose of the demonstration project is to assess the feasibility of this concept in actual grain collection.

The road/rail power unit was constructed and put into grain service with Southern Rails Cooperative Ltd.

With assistance from the rail section, Southern Rails Cooperative Ltd. (a producer owned cooperative) purchased the Avonlea South Subdivision (Avonlea to Parry) from CN Rail and the Colony Subdivision (Rockglen to Killdeer) from CP Rail and commenced shortline operations. The federal government continues to fund the operation.

Several producer groups adjacent to branchlines threatened by abandonment approached the government for assistance to join the Southern Rail project. Negotiations with the federal government to fund the expanded operation were initiated.

General Consultative Services

The rail section continues to provide information and consultative services by responding to new and revised federal legislation and queries from provincial and federal groups, industry and the general public.

Transportation Planning and Research Division

Bernhard H. Wiens
Minister
Highways and Transportation

J.R. Sutherland
Deputy Minister

Phil Pearson
Executive Director

Neil Petrovitch
Transportation
Policy Branch

Roger Couturier
Planning
Support Branch

Andy Horosko
Technical Research
Branch

Masood Hassan
Capital Planning
Branch

The mandate statement of the division is "Working together to shape Saskatchewan's future through excellence in transportation planning, research and services".

The goals of the division are:

- To develop and manage a comprehensive transportation plan.
- To provide high quality transportation expertise, advice and service.
- To lead practical transportation research and development.
- To develop effective, response and proactive transportation policies and programs.
- To promote expertise, innovation, achievement and pride.
- To communicate and consult openly and effectively.

During the year the division and its component branches completed their respective current strategic plans. These plans provide guidance for the division and the department in annual activities. In addition, work began on the development of the terms of reference for a comprehensive transportation plan for the department.

Commercial air activities affecting Saskatchewan were monitored and assessed, and appropriate strategies developed. In cooperation with other western provinces a position was developed with respect to international air bilateral negotiations. A submission was made to the House of Commons Special Committee on Canada-U.S. Air Transborder Services at the Regina hearing on November 29, 1990.

The physical distribution and transportation advisory program continued to identify problems in the present physical distribution and transportation methodologies at user levels, and provided advice on alternatives to overcome deficiencies. A submission was made to the National Transportation Agency hearing in September, 1990 concerning railway freight tariffs to the Container Port of Saskatchewan Corporation.

A submission was made to the Royal Commission on National Passenger Transportation at a hearing in Regina on September 25, 1990.

A paper entitled "Grain Transportation Partnership" which examined options related to grain transportation was prepared and released on March 13, 1991.

Departmental and transportation interests were represented with respect to disposition of abandoned railway rights-of-way, Treaty Indian land entitlements, and handicapped persons transportation.

The division was actively involved on policy issues related to the environment. In particular, there was major involvement with the Round Table on the Environment and the Economy for which a report on transportation was co-ordinated and prepared by division personnel.

The division participated in Phase 3 of the federal/provincial territorial National Highway Policy Study which was published in September, 1990. In addition, advice was provided to several transportation planning studies in the Regina and Saskatoon regions.

Technical and administrative support was provided to the Interdivisional Committee to Prioritize Research. This committee was established to co-ordinate all research within the department. In 1990 the committee reviewed 55 research proposals.

Work continued in the development of the data acquisition system at the pavement test track. Upcoming joint research with the Canadian Strategic Highway Research Program at the track will fully utilize its facilities.

There was continued involvement with the International Strategic Highway Research Program (SHRP). Six pavement test sections were selected in Saskatchewan to study long term pavement performance. Two sites were also chosen to study the effect of maintenance practices.

The division also co-ordinated the department's activities on the Canadian Strategic Highway Research Program. Three sites for this program are located in Saskatchewan. These sites will be monitored for traffic and in situ pavement conditions which will then be further analysed.

P. M. Pearson
Executive Director

Planning Support Branch

The focus of Planning Support Branch is to improve the Saskatchewan transportation system by planning, developing and monitoring policies and programs of northern transportation and other special transportation issues, co-ordinating the development of legislation, and providing division administrative support. The subsequent goals and objectives as developed by the strategic planning process are:

- To provide high quality transportation expertise, advice, and support for the northern component of the comprehensive transportation plan.
  - Establish terms of reference for northern components of the comprehensive transportation plan.
  - Determine northern transportation needs.
  - Develop northern transportation plans.
  - Implement, monitor, evaluate and modify the northern transportation plan.
- To provide effective and responsible policies and programs for programs for specialized transportation needs.
  - Identify specialized transportation stakeholder needs for the development of policies, programs and services.
  - Evaluate the effectiveness of selected policies, programs, and services.
  - Monitor and review relevant plans, policies, and programs of other jurisdictions and agencies.
  - Revise and/or develop policies and programs if required.
- To provide administrative support services for the division
  - Identify the division's administrative and support needs.
  - Arrange for sufficient human and financial resources for the branch.
  - Implement and efficiently manage the required administrative support services.
- To provide expertise, innovation, achievement and pride.
  - Promote and recognize individual and team achievements.
  - Encourage and develop a high level of expertise among our people.
- To communicate and consult openly and effectively.
  - Encourage and practice more open communications and consultations within and outside the department.
  - Monitor, evaluate, and improve internal and external communications and consultations to create an open work environment.
  - Encourage, promote, and apply innovation.
  - Provide a safe and comfortable physical work environment.
  - Provide appropriate and sufficient working tools and resources.
  - Enhance the branch image.

The main activities involving Planning Support Branch during the year were:

Northern Transportation

The 1990 freight haul by barge into the Saskatchewan Lake Athabasca communities were studied. In 1990 these communities generated 8,543 tons which were hauled by two barge operators. Stony Rapids had the greatest amount of freight at 2,125 tons. For comparison, the tonnage on the system was 8,369 and 12,390 in 1989 and 1988 respectively. The large tonnage in 1988 was due to construction material required for the construction of the Uranium City - Wollaston Lake power line. Future tonnage levels are expected to remain at 1990 levels unless there are special construction projects in the region.

A financial audit and management study was conducted on the major barge operator on Lake Athabasca. These studies provided information which assisted in making management decisions.

A study was also conducted on alternatives to barge service on Lake Athabasca. Discussions took place with Transport Canada on these alternatives.

The long range program for the upgrading of northern roads and airports was updated. This program includes new roads and airports and the reconstruction of existing facilities. Co-ordination was maintained with Transport Canada on airport facilities and navigational aids to that federal and provincial activities would be compatible.

Interdepartmental Liaison

Liaison was maintained with federal and provincial agencies on various subjects within the purview of the branch. This liaison enabled the department to deal more effectively with transportation issues.

In co-operation with the Department of Rural Development the needs were established and the department was able to obtain certain abandoned railway rights-of-way for public highway purposes. These rights-of-way lands were obtained without public cost.

The branch co-ordinated departmental interests in provincial crown lands which were selected for Treaty Indian land entitlements. In most cases this was related to provincial highway rights-of-way and gravel pits, although in some cases broader policy issues were involved. Research within the department was frequently involved, with the results being provided to the Indian and Metis Affairs Secretariat.

Federal and provincial airport planning was co-ordinated with Transport Canada. Meetings with federal and departmental officials were held semi-annually. Information was exchanged on current and future program plans for the province.

The branch provided planning expertise and co-ordination for the department and the province on issues related to handicapped persons transportation. Proactive activity was provided with respect to co-ordinating federal/provincial meetings.

The branch represented the department on policy issues related to the environment. The branch was involved with the activities of the Round Table on the Environment and the Economy and co-ordinated and prepared the report from the transportation sector. The branch received all proposals concerning environment that were submitted to the Department of Environment and Public Safety and these were reviewed respecting transportation implications.

Statutes and Regulations

The branch is responsible for co-ordinating proposed department legislation, regulations, orders-in-council, and other cabinet agenda items.

Work was conducted with the assistance of the Department of Justice on amendments to The Highways and Transportation Act. The amendments are comprehensive and involve updating all sections of the Act. Further work is required prior to having the amendments approved by the Legislature.

Development of new regulations for the designation of provincial highways was carried out. These regulations will designate all public highways which the department maintains and operates as provincial highways.

The co-ordination and preparation of various documents required for departmental regulations and orders-in-council were conducted as required.

External and Other Activities

Several other activities were engaged in during the course of the year. Some of these were:

- Produced and monitored the division's annual budget.
- Developed the branch's strategic plan and assisted in the development of the division's strategic plan.
- Membership on several departmental committees.
- Chaired the Planning Systems Group at WACHO.
- Membership on the federal/provincial committee on transportation for the handicapped.

Transportation Policy Branch

The focus of the branch is to:

- develop and manage the non-road components of the comprehensive transportation plan.
- develop effective and responsive multi-modal policies, advisory programs and services.
- provide excellence in the delivery of policy, advice, programs and services.
- initiate and manage economic policy research and development.
- communicate and consult with our stakeholders in an open and effective manner.
- promote expertise, innovation and achievements.

During the 1990-91 fiscal year the branch maintained liaison with federal and the other provincial and private sector agencies dealing with transportation. The branch was involved in several major activities discussed below.

Air

The branch is responsible for influencing and improving the level and quality of commercial aviation services and infrastructure affecting Saskatchewan.

During 1990-91 branch staff were involved in the following major activities:

- Review and assess initiatives for the development of local airport authorities in other provinces as well as other initiatives for greater local involvement in the management of federal airports.
- Monitor and assess commercial air carrier activities affecting Saskatchewan and where necessary developed specific departmental and government strategies.
- Presented a submission to the House of Commons Special Committee on Canada-U.S. Air Transborder Services at the Regina hearing on November 29, 1990.
- The branch completed work with the other western provinces and developed a position for a formal approach to provincial involvement in international air bilateral negotiations.
- The branch represents the province at the pre and post briefing meeting with Canada's negotiators to the Canada-US Air Bilateral negotiations.
- Monitor and assess all Notices, Decisions and Orders of the Nation Transportation Agency respecting commercial air carrier activity in Saskatchewan.
- Participate in the development of Transport Canada infrastructure in Saskatchewan through regular involvement in Saskatchewan Air Facility Meetings. The department also represented on the Saskatoon and Regina Airport Consultative Committees.
- Meet regularly with Saskatchewan Aviation Council, Saskatchewan Outfitters Association, Saskatoon Airport Economic Development Board, Chambers of Commerce an Boards of Trade to discuss aviation related issues.
- The branch represents the department on the Transportation Association of Canada's Aviation Committee and on a number of committees as an Associate Memb of the Air Transport Association of Canada.

Physical Distribution And Transportation Advisory Program

This program provides a centre of expertise and up to date information regarding goods distribution into, wit and out of Saskatchewan. The objective is to reduce costs to Saskatchewan shippers, receivers a carriers. The goals of the program a to assist Saskatchewan business in maximizing their efficiency and profitability and to enhance the development of new domestic, expo and import markets through utilizatio of physical distribution management techniques.

During 1990-91 branch staff were involved in the following major physi distribution activities:

- On-going development, monitorin and networking with other government and private sector people to support our centre of expertise, information and human

resource base on physical distribution management in Saskatchewan.

- A priority of the program is to identify deficiencies in the present physical distribution and transportation methodologies at user levels, then assisting and advising of alternatives that overcome the deficiencies.
- Maintained active memberships in national and international associations.
  Member, Chartered Institute of Transport - Prairie and N.W.T. Section - Secretary/Treasurer; Electronic Data Interchange Council of Canada; Canadian Association of Logistics Management, Regional Director, Saskatchewan and Manitoba; Canadian International Freight Forwarders Association; International Cargo Handling Co-ordinating Association; and Canadian Industrial Transportation League, Chairman Education Committee, Saskatchewan Division.
- Provided consulting services to other departments, shippers, receivers and carriers on physical distribution matters.
- Distributed 450 Physical Distribution and Transportation Advisory manuals to governments, private sector nationally, internationally and provincial libraries.
- Presented a submission to the National Transportation Agency public interest hearing in September, 1990 concerning the failure of the railways to establish freight tariffs to service the Container Port of Saskatchewan Corporation.
- Resource person/speaker at meetings, conferences and workshops to promote physical distribution management.

Rail

The branch is responsible for influencing and improving the level and quality of rail service and infrastructure affecting Saskatchewan.

During 1990-91 branch staff were involved in the following major activities:

- Monitor and assess all Notices, Decisions and Orders of the National Transportation Agency respecting rail activities in Saskatchewan.
- Held discussions with officials of the western provinces and the National Transportation Agency concerning surveys to monitor the performance of the new National Transportation Act.
- Presented a submission to the Royal Commission on National Passenger Transportation at the Regina hearing on September 25, 1990.
- The branch represents the province at the Transportation Committee meetings associated with the federal government's Agri-Food Policy Review.
- The branch prepared a discussion paper entitled "Grain Transportation Partnership" which was released on March 13, 1991 at the SARM annual convention. The discussion paper presents issues and options associated with rationalizing the grain handling and transportation system.
- The following tables provide information on the current status of Saskatchewan branch lines.

Rail Line Abandonment Applications Currently Active under Section 160 of the National Transportation Act, 1987

Railway/ Subdivision	Between Points	Track Miles	Status
CN Central Butte	Moose Jaw Jct to Mawer	45.63	Ordered continued. To be reconsidered after year 2000.
CP White Fox	Meath Park-Sharpe	9.8	Application to abandon.
CP Kerrobert	Outlook-Conquest	8.2	Application to abandon.
	CN Total Miles	**45.63**	
	CP Total Miles	**18.0**	

Rail Line Abandonment Between April 1, 1990 and March 31, 1991

Railway/ Subdivision	Between Points	Track Miles	Status
CP Coronation abandoned	Major-Compeer	20.2	Ordered May 10, 1990
CP Empress abandoned	Leader-Empress	21.1	Ordered May 10, 1990
CP Kisbey abandoned	Arcola-Stoughton	22.8	Ordered May 10, 1990
CN Preeceville abandoned	Preeceville-Kelvington	40.14	Ordered July 28, 1990
	CN Total Miles	**40.14**	
	CP Total Miles	**64.1**	

Capital Program Planning Branch

The focus of the branch is:

- to identify and assess present and future demands for provincial highways, provincial and municipal airports, urban transportation assistance and rural transit assistance in Saskatchewan.
- to develop, monitor and evaluate strategic and short-range responses to these demands in terms of capital programs.

Major Activities:

Capital Programming

The proposed five-year construction program was reviewed and developed for the period 1991 to 1995.

The branch co-ordinated the submission of the 1991-92 capital program and budget to Treasury Board. After numerous reviews and different submissions, the capital budget for the department was approved at $84.44 million representing a $24.9 million reduction from the 1990-91 capital budget of $109.34 million. The reduction was partly a result of the end of the special 3-year, $10 million per year highway rehabilitation program and the discontinuation of the department's urban transportation program which had an allocation of $6.5 million in 1990-91.

National Highway Policy Study

The Phase-3 report of the federal/provincial territorial National Highway Policy Study was published in September 1990. It showed that, unlike Canada, in most other federal states the central governments bear the main financial responsibilities for "national" highways.

Strategic Planning

The branch director facilitated the strategic planning process for the divisions and branches, on full-time special assignment from mid-January to mid-June 1990 and part-time during the rest of the year.

Programming and Planning Studies

The branch was involved in the following studies:

- Swift Current Interchange Need Study.
- Victoria Avenue East (Regina) Transportation Impact Study.
- Truck Rest Stops Study.
- Saskatchewan's submission to the Royal Commission on Passenger Transportation.
- Saskatoon Rural Regional Highway Planning Study (expected completion 1991).
- Study of the economic impact of highway expenditures (expected completion 1991).
- City of Regina Transportation Study (expected completion 1991).
- City of Saskatoon Transportation Study (expected completion 1992).

Grid Road Takeover Policy

During 1990-91, parts of two rural grid roads for a total of 12 km were incorporated into the highway network.

Geographic Information System

The branch began full use of the GEO/SQL software for its programming and planning functions.

Professional and Technical Expertise, Advice and Information

A significant proportion of staff resources were used to provide specialist advice and assistance to senior management, other units of the department and extra-department units on matters related to highway planning, location and design standards, airport planning and classification, urban transportation planning, and policies related to capital programs.

Examples of such activities include the preparation of briefs, letters and background papers pertaining to the Saskatchewan Association of Rural Municipalities, Saskatchewan Urban Municipalities Association, Yellowhead Highway Association, Saskatchewan Roadbuilders, urban and rural municipalities, members of the public, and federal and provincial governments.

The branch maintains the highway-railway grade crossing inventory which is used to establish an annual list of candidates for installation of automatic signals.

The branch also compiled the annual lengths and expenditure statistics for Statistics Canada and Transportation Association of Canada and responded

to numerous other information requests.

Professional Publications

The branch staff were involved in the following publication during 1990-91.

1. Partridge, T. and Hassan, M.U., "City of Regina Travel Survey: A New Approach", Proceedings of the Transportation Association of Canada Conference, September 1990.
2. Heiman, G.H., Chursinoff, R.W., Deighton, R. and Hassan, M.U., "Integration of Rehabilitation, Maintenance and Upgrading in Saskatchewan's Pavement Management Information System", Proceedings of the Transportation Association of Canada Conference, September 1990.
3. Hossack, M.A. and Kriger, D., "Integration of GIS with the Transportation Demand Model TModel 2 at Saskatchewan Department of Highways and Transportation", Proceedings of the Geographic Information Systems for Transportation Symposium, (by Transportation Research Board), Orlando Florida, March 1991.

Technical Research Branch

The focus of the branch is to facilitate and co-ordinate technical research and development activities in support of Saskatchewan Highways and Transportation priorities.

Specific objectives of the branch are:

- To lead and co-ordinate technical research and development directed at improving Saskatchewan's highways and other provincial transportation facilities.
- To make recommendations and/or provide assistance in implementing and developing new equipment, methods, materials and procedures.
- To improve transportation safety to reduce the incidence and severity of accidents.
- To support research and development of Saskatchewan materials and manufactured products for application in the transportation sector.
- To develop and use the pavement test track for accelerated testing and to provide fundamental knowledge of highway materials behaviour.
- To encourage, monitor and participate in technical research activities involving other agencies and organizations.
- To support technology transfer by disseminating research and development information and providing a forum for technical exchange.

The Technical Research Branch provided technical and administrative support to the Interdivisional Committee to Prioritize Research (ICPR). The ICPR was created to co-ordinate the department's research activities, thereby ensuring equity in resource availability, preventing duplication, monitoring progress of projects, and promoting use of research findings. In addition to monitoring the current projects, the ICPR received a total of 55 research proposals which were reviewed to establish the project list for the 1990-91 year.

Materials Research

Materials research accomplishments included completion of three projects, initiation of four new projects and continuing data collection and evaluation of others.

Final reports were completed for the following projects:

- Sand-Sulphur Asphalt Test Section which was constructed on C.S. 1-07 near McLean in 1974.
- Investigation of test procedures for quantifying particle shape, angularity and surface texture of aggregates proposed for use in asphalt concrete pavements.

The four new research projects initiated include the following:

- performance of popcorn mix on C.S. 1-09B (Ring Road in Regina)
- construction and evaluation of Flying Stone test sections on C.S. 21-12 and 20-3
- construction and evaluation of micro-surfacing test sections in Yorkton and Regina Districts
- long-term study evaluating the problem of "stripping" in asphalt concrete pavements
- use of "krieging" technique to predict quantity and quality of gravel deposits

On-going data collection and performance evaluation continued for the following projects:

- pavement temperature/Benkelman Beam deflection study
- in-situ moisture/density and soil suction monitoring station on C.S. 334-02
- polymer asphalt test section on C.S. 16-30A
- premium asphalt test section on 11-05B
- slurry seal test sections in Yorkton District

The branch also continued to provide technical advice and services for other smaller research projects undertaken by the other branches.

Transportation Research

The transportation research initiatives included:

- evaluation of the piezo-electric weigh-in-motion system
- continuing development of the weighscale technology package
- development of communications link-up for remote TC/C installations
- review of expert system applications
- review of traffic prediction methods
- study of enforcement and compliance levels for weight, safety and economic regulations
- evaluation of the effects of rolled annular ends on the hydraulic resistance of helical pipe
- study of the economic impact of highway expenditures
- development of a database for recording and analyzing changes in traffic sign reflectivity over time

The department continues to monitor the piezo-electric weigh-in-motion/vehicle classifier system on Highway No.11. The department and the University of Regina undertook a statistical analysis comparing the WIM weights and static weights of vehicles selected from the normal traffic flow. The site is designated as a regional weigh-in-motion site for the Strategic Highway Research Program.

The final stages of the weighscale technology package at the Estevan weigh scale were installed. Efforts have now shifted toward making the system more user friendly and responsive to the needs of the Transport Compliance Officers. The new variable message sign was monitored through the full range of environmental conditions which are normally expected.

The branch continued to work with the TC/C's installed at the SHRP and C-SHRP sites. Modems were installed at all sites and work commenced on a cellular link-up for sites which are not easily accessible for hard wiring. A comprehensive questionnaire addressing traffic data collection equipment and methods was prepared for distribution to other provinces as the basis for a national database.

Test Track

The department continued with the development of the first environmentally controlled test track of its kind in the world. Test track activities included continuation of the upgrading program, participation in a technology exchange with the University of Canterbury (New Zealand). A protype of the acquisition system was sold to them and they have expressed interest in acquiring additional components to expand their system.

Work has continued on the development of the data acquisition system. The system size was doubled and its capabilities enhanced to prepare for the upcoming BTR study. Most work, however, was devoted to writing software to enable data acquisition from multiple arrays of SSG sensors.

Strategic Highway Research Program (SHRP)

The department continued its involvement in the international research program with the six test sections approved as part of the General Pavement Studies (GPS) portion of the Long Term Pavement Performance (LTPP) program component of SHRP. The sites are located as follows:

- two sites on Highway No. 9 north of Whitewood
- one site on Highway No. 9 south of Whitewood
- two sites on Highway No. 11 south of Saskatoon
- one site on Highway No. 16 east of Plunkett

The department also initiated two new sites for maintenance evaluation as part of the Specific Pavement Studies (SPS) program. The sites are located south of Whitewood and east of Plunkett, adjacent to the GPS sites.

Coring and test pit excavation was completed for two of the sites and arrangements were made to complete the remaining sites in 1990. Extensive historic data pertaining to maintenance, traffic and environment conditions was compiled. Traffic data collection equipment was installed on Highway No. 16.

The branch provided further support to the SHRP program by providing information on department procedures in the asphalt, operations and structures research areas.

Canadian Strategic Highway Research Program (C-SHRP)

The branch continued to co-ordinate the department's activities in C-SHRP. Saskatchewan is providing three sites for the program (Highway No. 10 south-east of Yorkton, Highway No.1 west of Indian Head, and Highway No.5 east of Humboldt). Laboratory testing of the field drilling samples was completed. The traffic data collection equipment which was installed at all sites was monitored, but premature sensor failure reduced the amount of valuable data available. A replacement schedule was agreed to with the equipment supplier. Calibration will be after the replacement sensors have been installed and had sufficient time in the roadway to confirm proper operation.

Technology Transfer

The branch's quarterly newsletter provided an important forum for the presentation of information about the department's research program as well as specific projects within the program. The newsletter was distributed within the department, to other provincial highway agencies and to academic institutions.

The branch also participated in information exchanges by:

- publishing technical bulletins summarizing the analysis and findings from the variable thickness pavement test section, the static loading of pavement at the test track, and the thin overlay test section
- preparing of a paper about the test track. The paper was presented at the Technology Transfer session of the WACHO conference
- initiating information meetings for department representatives interested in the SHRP and C-SHRP programs
- participating in conferences, technical societies, Roads and Transportation Association of Canada committees, and sub-committees of C-SHRP

Regulation and Traffic Safety Division

Bernhard H. Wiens
Minister
Highways and Transportation

J.R. Sutherland
Deputy Minister

The Regulation and Traffic Safety Division is committed to excellence in motor vehicle safety and transportation services.

Under this mandate, the division performs support functions for the Highway Traffic Board by developing policy options for possible implementation, administering the daily functioning of the Board, and by requesting or implementing Board decisions.

The division is also responsible for the development, implementation and delivery of enforcement, safety and transport regulation initiatives for the department.

Applications for extra-provincial authority and non general merchandise intra-provincial authority continue to be processed in accordance with the reverse onus criteria. Applicants and all existing authority holders continue to be reviewed for the issuance of safety ratings under the National Safety Code.

Regulations necessary for the full implementation of National Safety Code standards in Saskatchewan continue to be developed.

Major changes to bus rates were initiated with the development of a bus rate model. Fuel surcharges prompted by the Gulf crisis were also introduced.

W. R. McLaren
Executive Director
Regulation and Traffic Safety Division

Bill McLaren
Executive Director

Dave Stewart
Director
Transportation
Legislation and
Safety Branch

Ron Blackburn
Director
Motor Carrier
Regulations
Branch

Barry Weafer
Director
Transport
Compliance
Branch

Phyllis
Glowatsky
Director
Board Affairs
and Support
Services Branch

Board Affairs and Support Services Branch

The Board Affairs and Support Services Branch has the responsibility for providing administrative support and services for the Regulation and Traffic Safety Division as well as the Board Secretariat functions for the Highway Traffic Board.

The administrative support for the staff of the division involves procurement of equipment, uniforms and supplies, invoicing, processing printing requisitions, controlling inventory, processing expense statements for members of the Board, monitoring budgetary allocations for the division and co-ordinating personnel related matters with the Human Resource Branch.

The Board Secretariat function for the Highway Traffic Board involves the planning, organizing, co-ordinating and managing of activities for the board members, such as:

- preparing agendas, files, policy proposals and other related material.
- planning, arranging and scheduling appeals on driver suspensions or S.G.I. related decisions, public hearings relating to operating authority applications and meetings to obtain public input or provide information.
- providing technical and professional advice and consultative services to solicitors, shippers, carriers and others respecting matters dealt with by the Board.
- preparing, distributing and implementing in a legally correct manner all Board decisions, orders or directives.

As a result of deregulation initiatives, the issues and matters dealt with by the Motor Carrier Committee increased significantly. 2,233 items were handled as compared to 1,384 in 1989-90.

The Traffic Safety Committee heard 63 appeals for restricted licences because of impaired driving suspensions. Of these, seven were denied and 56 were issued restricted licences. Appeals on medical and short-term suspensions imposed by SGI were up from the previous year in that a total of 15 appeals were heard (nine for medicals and six for short term).

Motor Carrier Regulations Branch

The Saskatchewan motor carrier industry is subject to regulations designed to enhance freight and passenger services to Saskatchewan residents. The main program areas include:

Operating Authorities Section

Operating authority administration involves processing motor carrier applications for new authorities.

While the ease of entry process was introduced in 1986, the Board continues to receive a substantial number of applications: (1987-88 - 299, 1988-89 - 277, 1989-90 - 251, and

1990-91 - 172). As well, all extra-provincial applications and non-general merchandise intra-provincial applications continue to be processed under reverse onus criteria. Since December 1989, the requirement of shipper support was eliminated for extra-provincial applications resulting in a significant increase in the number of reverse onus applications being processed.

The following statistical table shows the level of operations within the section:

Type	1987 -88	1988 -89	1989 -90	1990 -91
Ease of Entry	299	277	251	172
Reverse Onus	239	371	533	629
Public Convenience & Necessity	121	41	55	48
Total	**659**	**689**	**839**	**849**

Motor Carrier Fitness Section

One of the policies of the Highway Traffic Board is to promote compliance with all transport laws and regulations by those involved in the motor carrier industry.

A central registry of all transport law violations, along with a recording of the violators is maintained, and continuously reviewed. In accordance with predetermined levels, registration and/or authority holders are subject to action in the form of warning letters and counselling sessions.

During the past year, letters were forwarded to 15 carriers providing a brief description of the Compliance Review Program and procedures. The letter also requested that the carrier provide us with operational data to ensure our records were correct.

Carriers making new applications for authority had their records under the Compliance Review Program reviewed. Nine carriers were asked to meet with the Board or the Compliance Review Committee as a result of its compliance with transport law.

Central Permit Office Section

A central permit operation has continued to service the motor carrier industry on a round-the-clock basis. Permit authorizations for operating authorities, fuel tax, vehicle registrations, and weight and dimension authorities are provided.

The new Automated Permit System (APS) commenced operation September 1989; this system is a joint venture between the Central Permit Office and the Maintenance Branch.

The combined APS operations has issued 450,765 permits generating $24,277,323 revenue.

Year End	Number of Permits	Permit Revenue
1983	42,617	$ 1,946,298
1984	55,162	2,420,341
1985	54,956	2,679,605
1986	51,141	2,572,190
1987	55,966	3,019,209
1988	52,893	3,504,758
1989	63,744	3,902,356
1990	74,286	4,232,566
Total	450,765	$24,277,323

Transportation Legislation and Safety Branch

This branch develops motor carrier policies, taxation and legislation.

The branch oversaw an interdepartmental study on economic opportunities associated with transportation.

Other highlights included legislative enhancements to the National Safety Code for commercial carriers and the dangerous goods transportation program.

The branch is divided into four sections.

Dangerous Goods Transportation Section

The Dangerous Goods Transportation Act has been amended to extend the application of the Act to include persons who "handle and offer for transport" dangerous goods by any means of transport. This change will ensure uniform application of the regulations and allows for the tracking of dangerous goods that are wastes from the generator through to the place of disposal.

This section continues to review and recommend regulatory amendments.

The section trained and designated dangerous goods inspectors with Transport Compliance staff, Urban Municipalities and the RCMP. The section co-ordinated enforcement activities.

The section continued to participate in public awareness events to ensure that the public and industry are provided with an opportunity to learn about the dangerous goods transportation program. Enforcement agencies, emergency responders and other government departments have continued to consult with this section and on-going assistance has been provided.

Vehicle Registrations and Permit Section

This section is responsible for vehicle registration policies and legislation affecting 813,000 vehicles registered in Saskatchewan. This includes establishing the allowed uses and associated fees for various registration classifications. This section is also responsible for developing and maintaining reciprocity agreements, national registration standards and monitoring the delivery of the registration system by Saskatchewan Government Insurance.

Number of Vehicles

Description	Registered
Public Service	2,294
Public Service - Rural General Merchandise	208
Commercial Vehicle C	14,732
Commercial Vehicle D	32,834
Farm Truck	164,048
Private Vehicle	492,054
Private Trailer	77,917
Commercial Trailer	13,022
Passenger PSV Bus	254
Passenger City Bus	411
Passenger School Bus	3,336
Taxi	652
Motor Toboggan	6,396
Licensed Auto Dealer	3,504
Licensed Trailer Dealer	90
Federal Government	2,003
Total	**813,755**

Safety and Legislation Section

The section continued to co-ordinate legislative and regulatory developments for the division.

In June 1990, the Legislative Assembly passed several amendments to The Highway Traffic Act. The focus of the amendments was to complete the implementation of the National Safety Code in Saskatchewan. The Highway Traffic Board now has the authority to monitor commercial carrier operations in Saskatchewan.

Regulations resulting from the amendments in both 1989 and 1990 were under development at the end of the year.

The section continued to work closely with departmental stakeholders. The section provided information and advice on school bus safety to the Saskatchewan School Trustees Association. The section continued to work with the Traffic Division of the Saskatchewan Safety Council. The

section represented the department on an interagency committee on child restraint systems.

As a result of an initiative of the Saskatchewan Medical Association, the section developed revisions to the forms completed by physicians when issuing medical exemptions for seat belts.

During 1990-91, the section completed the necessary steps for Cabinet approval of new regulations respecting vehicle usage in the province. The section also developed necessary regulations and orders to allow general freight trucking companies to add a Board approved fuel surcharge during the crisis in the Persian Gulf.

Program Development and Support Section

This section's main responsibilities are:

- develop and evaluate programs and provide research and analytical support to other sections, branches and the Board;
- provide advice on the design and development of information systems and recommend appropriate hardware and software for division owned systems;
- evaluate filed and prescribed rate proposals for freight and passengers, develop conditions of carriage and set insurance requirements.

As per shipper and carrier agreements, this section recommended no increase in general merchandise rates because of the implementation of the GST credit. A fuel surcharge was implemented in October 1990 as a result of the escalation in fuel prices due to the Gulf crisis.

A new schedule was implemented for beer shipments (March 1991-February 1993). Filed rates below the tariff were approved for several carriers.

The Board approved exemptions from carrying full bills of lading for several carriers who utilize electronic bills of lading in truckload operations between terminals.

This section consulted with a variety of shippers on transportation problems with particular reference to intermodalism.

Staff prepared a special report on backhaul opportunities.

Staff assisted in the development of the new Traffic Accident Information System. Staff also provided input into the development of the department's strategic plan.

Transport Compliance Branch

This branch is composed of the Saskatchewan Highway Transport Patrol and Transport Investigation Units who deliver professional law enforcement service to Saskatchewan road transportation.

For organizational purposes, the province is divided into two geographic regions. Within these regions, uniformed staff are employed to patrol the highways and to staff 14 permanent weigh scales. These activities are conducted around the clock. Investigative staff operate from Regina and Saskatoon. They conduct investigations into road transportation complaints and conduct audits on individual carriers.

The focus of this law enforcement group is to promote compliance with laws which protect highways and the people who use them and to govern the movement of vehicles, goods and passengers. Primarily, officers interface with the bus/truck industry, but they have the authority to promote highway safety for all vehicles by taking action on flagrant violations when encountered.

The primary responsibility is the enforcement of laws and regulations covering vehicle and driver safety, weights and dimensions and economic regulation (operating authority and registration). While carrying out their duties, staff conducted 300,686 inspections, 17,154 consultations and 1,511 investigations with industry during the year.

Summary of Inspections and Violation Rates (90-91)

Types of Inspection	Location of Inspections	Number of Inspections	Violation Rates
Economic Regulation	At Weigh Scales	23,700	5.7
	On Patrol	I2,321	9.6
Weight and Dimension	At Weigh Scales	221,396	1.0
	On Patrol	7,882	16.4
Safety	At Weigh Scales	19,294	20.0
	On Patrol	16,093	36.9
Total Weigh Scale Inspection			**264,390**
Total Patrol Inspections			**36,296**
Total Inspections			**300,686**

The branch actively promotes compliance with dangerous goods transportation laws on Saskatchewan highways. All officers are trained and certified as dangerous goods inspectors for Saskatchewan. Their duties include inspection of drivers, vehicles, cargo, documentation and the display of safety marks.

During 1990-91, officers conducted extensive inspections under the Commercial Vehicle Safety Alliance (C.V.S.A.) Program in Saskatchewan.

This international organization is devoted to promoting safer commercial vehicles in Canada, the United States, and Mexico through roadside inspections. Vehicles which pass inspection are awarded decals which are recognized by other jurisdictions. Unsafe vehicles are placed "out-of-service" until necessary repairs are made. "Standard inspections" consist of 52 elements while "walk around inspections" include 23 elements.

C.V.S.A. Inspection Summary (90-91)

	Number Conducted	Decals Issued	Pass Rate	Vehicles With Defects
Standard Inspections	2,052	973	47.5	1,079
Walk Around Inspections	4,911	N/A	58.4	2,044

In May of 1990, a concentrated enforcement blitz was conducted at the Estevan Weigh Scale. Members of the R.C.M.P. and employees of S.G.I. Safety Section provided assistance and support to branch staff during this undertaking. The blitz was successful in that unsafe trucks were taken out of service and/or repaired, thus ensuring safer Saskatchewan highways for all users.

Carrier Audits/Safety Reviews

1989 saw the introduction of a commercial carrier audit program with guidelines developed under the National Safety Code. Under this program 355 safety review audits were carried out in 1990-91.

These audits review the carrier's record keeping with a view to increasing safety awareness within the transportation industry. Driver qualifications, hours of service, vehicle maintenance and dangerous goods records are all examined by qualified investigators. The intent is to assist the carrier in establishing proper record keeping systems.

Recap of Charges and Written Warnings

Of the charges and written warnings issued during the year, approximately 40 per cent went to carriers and drivers based outside the province. This reflects the high level of trucking into and through Saskatchewan from other provinces and states.

Economic Regulation	
Operating Authority	625
Registration	2,556
Subtotal	3,181
Weight and Dimension	
Overweight	2,490
Overwidth	351
Overlength	53
Overheight	99
Other	233
Subtotal	3,226
Vehicle and Driver Safety	
Dangerous Goods	225
Vehicle Offences	8,373
Driver Offences	3,426
Miscellaneous	221
Subtotal	12,336
Total	18,743

Support Services Division

Bernhard H. Wiens
Minister
Highways and Transportation

J.R. Sutherland
Deputy Minister

Paul Fitzel
Executive Director

Art Lowey
Property Services
Branch

Horst Arndt
Management
Services Branch

Steve Pillipow
Human Resource
Branch

Colleen Laing
Financial
Services Branch

Support Services Division provides quality administrative and support services to the department through people committed to excellence in the work they do.

Functional services include:

- staffing
- personnel management and training
- financial management and control
- *management and administrative* systems
- computer services
- property acquisition
- property management

Details of specific services and accomplishments are provided in the following individual branch reports.

Paul Fitzel
Executive Director
Support Services Division

Human Resource Branch

Human Resource Branch is a "people-oriented" service unit providing services in the area of:

- labour relations
- recruitment
- classification
- records management
- occupational health and safety

The branch's focus statement is:

"To promote excellence in human resource management and provide related specialized functions to meet the needs and challenges of the people we serve."

Significant activities for the 1990-91 year include:

- Taking part in government pilot projects on a new performance appraisal system and human resource information system.
- Drafting of policies within the manpower and organizational plan.
- Participating in strategic planning conferences at the branch and division level.
- By utilizing the strategic process the branch undertook a pilot project with the Occupational Health and Safety Committees to identify issues and establish responsibilities for future training directions.
- Provided Host II "Service Through *Training*" seminars to 636 department employees.
- Co-ordinated a pilot project on Fleet Risk Management to fully examine all areas of risk in our fleet operations.
- Co-ordinated staff development opportunities for the department which resulted in 5,663 training days at a total cost of $391,331.33.

Management Services Branch

Branch Overview

The branch provides services within the department in the following areas:

- data processing
- information systems
- computer oriented training
- operational co-ordination and monitoring of systems
- inter-government liaison
- managerial consulting
- network management and support

This year the branch revisited the strategic planning document and revised the focus statement and goals:

Focus Statement:

> Leaders and facilitators in information technology and management services

Goal Statements:

GOAL A - Innovation in the use and promotion of new information technology.

GOAL B - Provision of effective client services.

GOAL C - Open and effective communication.

GOAL D - A working environment to facilitate excellence.

GOAL E - Leadership in managerial consulting support.

Information Technology Hardware

The Information Technology implementation plan was continued, with substantial expansion to LAN/WAN (Local Area Network/Wide Area Network) technology in the department. The branch co-ordinated the acquisition and installation of four new file servers in head office and five file servers in vehicle repair shops bringing the total to 17. The head office LANs have now been expanded to about 160 work stations.

Information Technology Migration

The pilot project in Yorkton for data entry and job submission to Westbridge triggered substantial work to redesign and upgrade the technology. As a result, reliability, functionality and speed have been substantially increased.

Application System Software

The branch has co-ordinated and initiated new system development:

- The Traffic Accident Information System (TAIS) has been rewritten and implemented in a Client Server environment on the LAN.
- The Business Model for a new Vehicle Permit System has been completed.

Branch Initiatives

Management Services Branch took major steps during the year to implement a HELP DESK for the department. The help desk allows users of information technology to get help through one location. Tracking of problems will be easier and the help desk will be able to provide quick solutions to common problems. Technical and systems personnel will be freed up to solve the more difficult problems. Substantial planning and LAN/WAN training has been undertaken. Full implementation of the help desk has been scheduled for the 1991-92 fiscal year.

The expertise of our users is growing rapidly and is a resource that we want to take more advantage of. A prime example of this is the new Remote Job Entry menuing system, developed on the LAN in Engineering Division Maintenance Branch, that has been modified and implemented for use by the department.

Property Services Branch

Property Services Branch is responsible for:

- the appraisal and negotiation of land for various department programs
- establishment of standard rates of compensation for land related damages negotiated by the branch and other department units
- arranging for the legal survey services required for department right of way and public improvement projects
- the registration of rights to property to meet the department's construction schedule and the Grid and Main Farm Access Road Program
- payment for various related services and for land where title has been secured
- the management of property rights under the jurisdiction of the department pertaining to public highways and public improvements.

1990-91 Highlights

- A significant first time achievement of no highway right of way or public improvement expropriations for the entire year was recorded. The average number of expropriations, since implementation of The Expropriation Procedure Act some 21 years ago, has been 27 expropriations per year.
- The number of outstanding arbitration files with respect to land expropriated under The Expropriation Procedure Act, has been reduced to six files, the lowest number on record.
- The drafting of a branch procedures manual for the property registration, property administration and property management units was completed ahead of schedule. Work on updating and rewriting the property acquisition manual continues with steady progress.
- A branch systems committee was established to analyze and recommend system improvements that would make branch systems more effective and efficient. The committee examined existing systems and prepared a report identifying short term and long term opportunities for automating branch systems.
- A number of opportunities to improve customer service were identified and implemented following heightened employee awareness in this area as a result of employee participation in strategic planning process meetings and quality customer service seminars.

1989-90 Accomplishments

Plans of survey recorded (all types)	1,132
Road, Public Improvement and Reference Plans processed	478
Road, Public Improvement and Reference Plans registered	391
Provincial Highway, Public Improvement and Miscellaneous surveys contracted	43
Kilometres of Provincial Highway contracted	199
Consents and Permits issued	1,245
Closures, Abandonments and Encroachments issued	142
Property agreements paid	818
Property agreements negotiated	779
Leases, Grazing and Cultivation Permits issued	182
Highway right of way dedications acquired	57

Miscellaneous roadway conveyance for the following programs:

• Rail Line Abandonments	39
• Indian Land Entitlements	7
• Northern Community Land Transfers	8
• Northern Farm Land Transfers	1

Financial Services Branch

Focus

To provide quality financial services and managerial information in a responsive and professional manner.

Responsibilities

- process and report accounts receivable and payable
- prepare labour service and public service payrolls
- prepare Public Accounts submission and Highways Revolving Fund financial statements
- review financial and financial/operational systems to ensure adequate controls and the accuracy of financial information
- prepare administration budget and department fiscal forecast
- provide inventory administration and purchasing services
- prepare briefing books and special reports as required
- co-ordinate head office mail receipt and delivery

Accomplishments

A review was conducted of the mail services provided to head office. Changes were implemented which enabled the branch to reallocate one person year from mail - .5 to payroll and another .5 to accounts payable.

A process was implemented to enhance employee understanding of departmental signing authorities. It revealed some misconceptions and resulted in improved compliance with delegated authorities.

A procedures manual was written by the staff in Administration Support for their section. It provides guidance for each major function that the section is responsible for.

Cost saving measures were implemented reducing the licensing cost for the department's equipment fleet by over $200,000.

The new Records Retention and Disposal Schedule for the branch was approved by the Legislature and implemented.

The Accounts Payable Unit achieved a 0% payment error rate for eight months of invoice processing during the year. The Department of Finance announced that Highways and Transportation is the first department to ever attain a 0% payment error rate.

Revised procedures for invoice processing were implemented in February.

A training position was established in the Accounting Section to provide a branch employee with the opportunity to enhance their education and capabilities.

The branch completed its Strategic Plan in December.

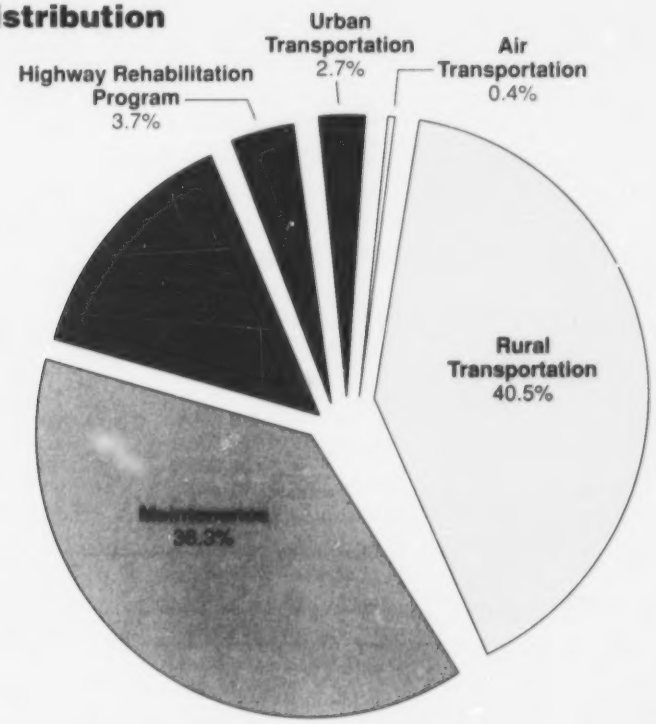
During 1990-91, four employees, or 9% of the branch staff compliment, benefited from secondments to Management Services Branch, Regina District and the Department of Agriculture and Food.

Appropriation and Expenditure 1990-1991

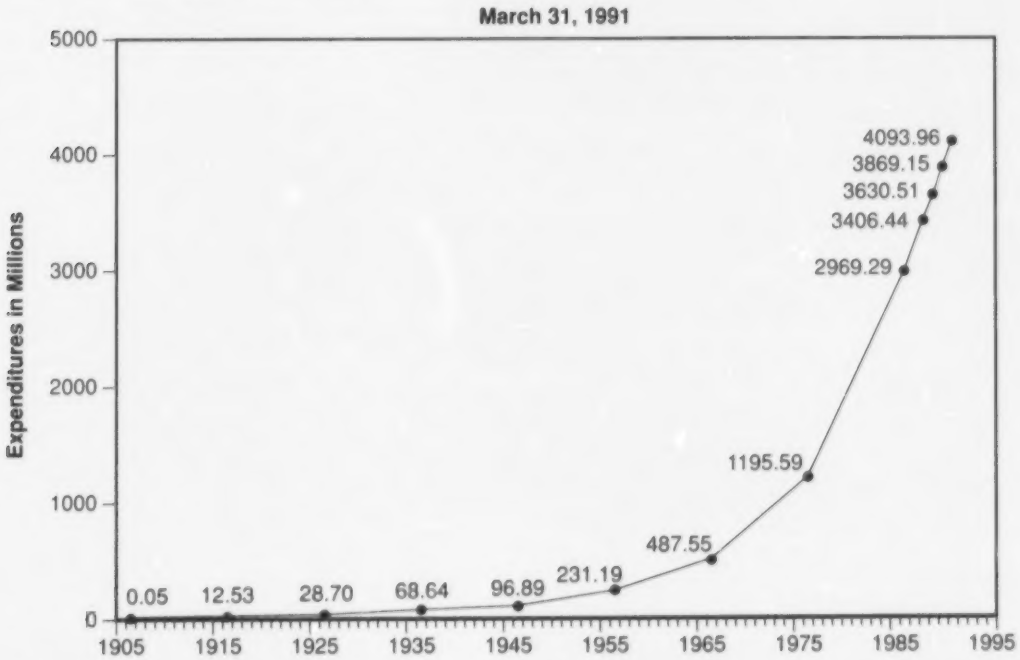
Ordinary	Appropriation	Expenditure
Executive Administration	$ 1,017,700	$ 1,285,697
Financial Services Branch	703,800	656,559
Human Resources Branch	863,800	896,763
Transportation Planning and Research Division	2,765,200	3,325,349
Property Services Branch	705,700	705,859
Communications Branch	654,000	647,532
Operations Services Branch	1,311,500	1,129,500
Engineering Division	2,488,900	2,556,378
Bridge Branch	444,800	439,238
Swift Current District	1,235,800	1,252,238
Regina District	1,693,700	1,641,917
Yorkton District	1,126,400	1,175,899
Saskatoon District	1,050,500	1,069,243
Prince Albert District	1,640,200	1,636,092
North Battleford District	1,429,100	1,294,439
Management Services Branch	1,101,900	1,121,890
Grants	138,800	140,574
Regulation and Traffic Safety Division	4,016,400	3,929,548
Payments to Sask Property Management Corporation	7,169,000	7,104,980
Members to Executive Council (Statutory)	36,600	36,610
	$ 31,593,800	$ 32,046,395
Maintenance	91,699,600	86,132,802
Subtotal	$ 123,293,400	$ 118,179,197
Capital		
Rural Surface Transportation	$ 91,990,000	$ 90,963,770
Urban Surface Transportation	6,500,000	6,519,091
Air Transportation	850,000	865,099
Highway Rehabilitation Program	10,000,000	8,277,405
Subtotal	$ 109,340,000	$ 106,625,365
Total	$ 232,633,400	$ 224,804,562

* The effect of virements is not reflected in these amounts

Expenditure Distribution



Accumulated Expenditures to Date



Accumulated Expenditure to Date

Fiscal Year	Current Year	To Date
1905-06	$ 49,546	$ 49,546
1906-07	484,177	533,723
1907-08	1,041,383	1,575,106
1908-09	1,443,335	3,018,441
1909-10	591,957	3,610,398
1910-11	610,920	4,221,318
1911-12	614,356	4,835,674
1912-13	2,525,188	7,360,862
1913-14	1,970,135	9,330,997
1914-15	2,370,439	11,701,436
1915-16	831,594	12,533,030
1916-17	536,594	13,069,624
1917-18	815,438	13,885,062
1918-19	616,472	14,501,534
1919-20	1,306,370	15,807,904
1920-21	1,804,973	17,612,877
1921-22	2,495,925	20,108,802
1922-23	2,201,358	22,310,160
1923-24	2,037,295	24,347,455
1924-25	2,229,408	26,576,863
1925-26	2,123,173	28,700,036
1926-27	2,660,195	31,360,231
1927-28	2,488,961	33,849,192
1928-29	4,228,261	38,077,453
1929-30	6,664,400	44,741,853
1930-31	10,703,359	55,445,212
1931-32	8,149,746	63,594,958
1932-33	905,374	64,500,332
1933-34	862,029	65,362,361
1934-35	1,661,983	67,024,344
1935-36	1,620,142	68,644,486
1936-37	2,595,381	71,239,867
1937-38	2,823,356	74,063,223
1938-39	3,509,280	77,572,503
1939-40	3,399,603	80,972,106
1940-41	1,706,382	82,678,488
1941-42	1,874,917	84,553,405
1942-43	2,126,374	86,679,779
1943-44	2,918,157	89,597,936
1944-45	3,387,320	92,985,256
1945-46	3,908,367	96,893,623
1946-47	6,312,801	103,206,424
1947-48	8,840,535	112,046,959
1948-49	$ 8,853,999	$ 120,900,958
1949-50	8,767,610	129,668,568
1950-51	10,118,744	139,787,312
1951-52	12,823,535	152,610,847
1952-53	18,919,646	171,530,493
1953-54	19,135,070	190,665,563
1954-55	20,395,779	211,061,342
1955-56	20,127,262	231,188,604
1956-57	24,140,190	255,328,794
1957-58	24,491,369	279,820,163
1958-59	23,697,574	303,517,737
1959-60	23,104,119	326,621,856
1960-61	25,237,066	351,858,922
1961-62	21,591,307	373,450,229
1962-63	22,094,828	395,545,221
1963-64	24,167,674	419,712,731
1964-65	27,152,511	446,865,242
1965-66	40,679,979	487,545,221
1966-67	54,387,704	541,932,925
1967-68	60,227,543	602,160,468
1968-69	60,110,923	662,271,391
1969-70	58,560,829	720,832,220
1970-71	68,081,718	788,913,938
1971-72	66,933,052	855,846,990
1972-73	63,362,093	919,209,083
1973-74	69,456,878	988,665,961
1974-75	96,760,356	1,085,426,317
1975-76	110,162,524	1,195,588,841
1976-77	123,321,325	1,318,910,166
1977-78	132,425,146	1,451,335,312
1978-79	160,610,850	1,611,946,162
1979-80	158,107,523	1,770,053,685
1980-81	168,287,313	1,938,340,998
1981-82	191,474,090	2,129,815,088
1982-83	192,829,361	2,322,644,449
1983-84	215,968,431	2,538,612,880
1984-85	211,979,173	2,753,592,053
1985-86	215,695,526	2,969,287,579
1986-87	219,921,430	3,189,209,009
1987-88	217,227,529	3,406,436,538
1988-89	224,076,485	3,630,513,023
1989-90	238,637,488	3,869,150,511
1990-91	224,804,562	4,093,955,073